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VARIATIONS IN MEDICAL PRACTICE

HEARING

BEFORE A
SUBCOMMITTEE OF THE
COMMITTEE ON APPROPRIATIONS
UNITED STATES SENATE
NINETY-EIGHTH CONGRESS
SECOND SESSION

SPECIAL HEARING

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CONTENTS

Page

Nondepartmental witness:

- John E. Wennberg, M.D., Dartmouth Medical School, statement of 2
  - Prepared statement 3

Department of Health and Human Services:

Health Care Financing Administration:

- Henry Desmarais, M.D., Director, Bureau of Eligibility Reimbursement and Coverage, statement of 39
  - Prepared statement 40

National Center for Health Services Research:

- Dr. John Marshall, Director, National Center for Health Services Research and Health Care Technology Assessment, statement of 51
  - Prepared statement 55

National Institutes of Health:

- Robert Gordon, M.D., Special Assistant to the Director for Research Related to Disease Prevention (Acting), National Institutes of Health, statement of 60
  - Prepared statement 61
- Eugene Passamani, M.D., National Heart, Lung, and Blood Institute, statement of 60
- Robert Witters, M.D., National Heart, Lung, and Blood Institute, statement of 60

Nondepartmental witnesses:

- John P. Bunker, M.D., Stanford University, statement of 85
  - Prepared statement 86
- Willis B. Goldbeck, president, Washington Business Group on Health, statement of 95
  - Prepared statement 96
- Dr. Thomas Dehn, M.D., vice president, American Medical Peer Review Association, statement of 112
  - Prepared statement 113
- Dr. James E. Davis, M.D., American Medical Association, statement of 124
  - Prepared statement 125
- Dr. Charles Kiesler, American Psychological Association, statement of 138
  - Prepared statement 139
- Senator William Proxmire, letter from 177
- Jay B. Cutler, special counsel and director, division government relations, American Psychiatric Association, letter from 177
- Senator Dave Durenberger, material submitted by 179
- American Society of Internal Medicine, prepared statement 187

VARIATIONS IN MEDICAL PRACTICE

MONDAY, NOVEMBER 19, 1984

U.S. SENATE,
SUBCOMMITTEE ON LABOR, HEALTH AND HUMAN
SERVICES, EDUCATION AND RELATED AGENCIES,
COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10 a.m., in room SD–138, Dirksen Senate Office Building, Hon. William Proxmire presiding.

Present: Senator Proxmire.

NONDEPARTMENTAL WITNESS

OPENING REMARKS

Senator PROXMIRE. The subcommittee will come to order.

Today's hearing was called at my request to explore variations in medical practice and what steps the subcommittee might take to stimulate a more thorough examination of this phenomenon by the Federal Government.

We are presently confronted with a Medicare system that is on the verge of bankruptcy. The hospital insurance trust fund will begin to run huge deficits by the early 1990's, according to its trustees, unless we raise the fund's revenue by 48 percent, almost one-half, or slash benefit payments by 32 percent, about one-third. The Congressional Budget Office has estimated that if nothing is done to the Supplemental Medical Insurance Program, which pays doctors' bills, it will absorb 12 percent of the Federal budget by the mid-1990's. It takes just 3.7 percent of that budget today. At a time when we are all deeply concerned about the total Federal deficit, these are matters of the greatest importance from a fiscal standpoint as well as from a health standpoint.

On the other hand, research conducted over the past few years on variations in medical practice patterns has shown that per person use of many, many surgical procedures varies from threefold to sixfold across specific sections of our country. For example, in Iowa the chances of male residents who reach the age of 85 having undergone a prostatectomy range from a low of 15 percent to a high of more than 50 percent in different hospital markets. Variations of this sort seem to be the norm rather than the exception.

Dr. Robert Brook, in an article appearing in Health Affairs, asked the question: "Is health improved by higher procedure rates?" And then pointed out: "Information to answer this question is all but nonexistent." We simply don't know if more is better. We do know, however, that more is terribly expensive and is pushing the Nation's medical care system toward a major crisis.

The question this hearing is meant to explore is whether we should be devoting more of our time and resources to understanding these variations and whether, in fact, we couldn't save immense amounts of Federal money by investing a relatively small amount to improve procedures and reduce unnecessary surgery.

Our first witness will be Dr. John Wennberg, who has spent a substantial part of his life looking into variations in medical practice. He will be followed by Dr. Henry Desmarais of the Health Care Financing Administration; Dr. John Marshall, Director of the National Center for Health Services Research; and Dr. Robert Gordon, representing the National Institutes of Health. These three witnesses have agreed to take questions as a panel.

We will then hear from Dr. John Bunker, another eminent researcher in the practice variation field; Willis Goldbeck, president of the Washington Business Group on Health; Dr. Thomas Dehn, vice president of the American Medical Peer Review Association; Dr. James Davis of the American Medical Association; and Dr. Charles Kiesler, representing the American Psychological Association. These witnesses will form a panel with Dr. Wennberg to take questions.

Dr. Wennberg will provide a framework for today's discussion by outlining his work and setting forth a plan for action.

Welcome, Dr. Wennberg. We look forward to your testimony.

STATEMENT OF JOHN E. WENNBERG, M.D., DARTMOUTH MEDICAL SCHOOL

PREPARED STATEMENT

Senator PROXMIRE. Before you summarize your statement we will insert your prepared statement in the record.

[The statement follows:]

STATEMENT OF DR. JOHN E. WENNBERG

I am very pleased to be asked to testify on the topic of variations in medical practice. My research into geographic patterns of health care delivery reveals extensive variation in the use of hospital services from one community to another. The extent of variation in reimbursements to hospitals under the Medicare program is such that if the low cost patterns of care were the norm, we would not be faced with the pending bankruptcy of the Medicare Trust Fund nor would we be now concerned with the spectre that medical care must be rationed. For many medical or surgical conditions, the variations suggest opportunities to reduce expenditures under the Medicare and Medicaid programs without reducing the benefits of medical care. For other conditions, the variations reveal a critical need to evaluate the outcomes of different approaches to treatment, so that patients and physicians may better understand the significance of their choices in using medical care. Before concluding my testimony, I will describe a plan to address the cost containment and outcome assessment imperatives revealed by the variations and make some specific suggestions as to how the Department of Health and Human Services can contribute.

THE PRACTICE VARIATION PHENOMENON

The practice variation phenomenon first came to my attention some fifteen years ago, when my colleagues and I implemented a system for monitoring health care delivery among hospital markets in Vermont. A unique feature of our approach is that we can identify the amount of care consumed by individuals in a specific population and are thus able to calculate rates per capita. We noticed that the per capita expenditures for hospitalization in some areas were more than double those of others, even though studies of the populations of Vermont communities showed that the patients were quite similar and differed little in terms of medical need. We repeated these studies throughout New England

and found similar patterns of variation in each state. These variations are not explained by differences in population characteristics and there seems to be no clear association between the factors that one ordinarily thinks should contribute to high costs, such as a greater percentage of the elderly in the population or the presence of a teaching hospital. However, differences in hospital costs do closely follow the distribution of hospital beds and numbers of persons employed in the hospital industry.

Let me give some examples. We found that hospital costs in Boston are about twice those of New Haven, even though most resident hospitalizations in each of these communities is to a teaching hospital and the percent of the population over sixty five is about equal. Boston had about 4.4 beds and, in 1978, about 18.2 employees per 1,000 residents while New Haven had about 2.7 beds and 9.5 employees. For 1982, we found that reimbursements for hospitalization of the elderly were 74 percent higher in Boston than in New Haven. If hospital insurance reimbursements for 78,000 Medicare enrollees living in Boston were the same as in New Haven, the outlays from the trust fund would have been $85 million rather than the actual $148 million, a savings to the trust fund of $63 million.

Exhibit one summarizes the extent of variation in expenditures and hospital bed allocations we have observed in our New England studies.

These differences in the per capita rates of use of resources are not intuitively known by the doctors or the patients on the scene. They become apparent only when they are measured directly. For example, I have asked clinicians who practice in both Yale and Harvard teaching hospitals to estimate the per capita expenditures for hospitals in each market. Their answers indicate they have no awareness of the magnitude of the difference; what is more surprising, many do not accurately guess which of the two markets is more expensive.

In my research, I have been very interested in how hospital resources are used--the specific services the dollars, facilities and manpower produce. Here the findings are clear and consistent. Some causes of hospitalization show very little variation in admission rates among hospital markets, no matter what the level of resource investment. Examples of low variation admissions include hospitalizations for fractures of the hip, acute myocardial infarction (heart attack), strokes, appendectomy and inguinal hernia repair. But these are the exceptions. Most causes of admission are highly variable, including many common surgical procedures. For example, we have found that the rates for tonsillectomy have varied as much as eightfold: nearly 70 percent of children had their tonsils removed by age 15 in one area, while in the low rate community fewer than 8 percent experienced the operation. The probability of having a hysterectomy has varied from less than 15 percent to well over 60 percent of women by age 75, depending on place of residence. And the chances that a male will have a prostatectomy by age 75 have ranged from a low of about 15 percent to well over 50 percent in different hospital market areas.

Exhibit Two shows the typical patterns of variation seen for common surgical procedures.

The variation phenomenon has been similarly documented in Europe and is not limited to health delivery systems based on fee-for-service financing. I have found the pattern of variation for common surgical procedures consistent among fee-for-service hospital markets in Iowa, Maine, Massachusetts, Rhode Island, and Vermont; among health maintenance organizations in the United States and among health care regions in Canada, England and Norway, even though obvious differences exist in the supply of hospital beds and surgeons, the organization and financing of services, and in the cultural and demographic characteristics of the residents.

Our more recent studies have been concerned with variations in hospitalization rates among medical as well as surgical admissions. We have found that most causes of admission as classified by Diagnosis Related Groups (DRGs) have highly variable admission rates. Indeed, nearly 90 percent of all non-obstetrical cases admitted to hospital have greater variation than hysterectomy.

The pattern of variation typical for medical DRGs is shown in Exhibits 3 and 4.

Why is it that such differences exist in the way medicine is practiced?

One reason is that for many common conditions, the necessary scientific studies that allow physicians to define the optimum treatment have not been done. Rather than consensus, there is controversy and disagreement among clinicians on what constitutes the best treatment for a particular problem. This is often the case when the clinical choice involves a medical versus a surgical approach to a given illness. The controversies arise because the natural history of the untreated or conservatively treated case is poorly understood and well designed clinical trials are notably absent.

Examples include surgical versus non-surgical treatment for menopausal symptoms, for moderate urinary tract obstruction due to benign hyperplasia of the prostate, for recurrent sore throats related to hypertrophy of the tonsil, and for coronary by-pass surgery following myocardial infarction. Well-defined scientific norms simply do not exist to delimit the practice options physicians select to treat these maladies. As a consequence, the opinions of individual doctors can vary substantially, based upon their subjective experience. Because many of the conditions are extremely common, eventually affecting most if not all people to some degree, the candidates that could qualify for operative intervention sometimes appear upwardly limited only by the size of the population.

Examples of such conditions that are particularly important for the Medicare program include prostatic hypertrophy, cataracts, and coronary artery disease. The public interest would be served by better understanding the implications of the variations, particularly the quality of life gains that follow the use of surgical approaches as compared to more conservative treatments. This should be a compelling priority for operations that carry a high surgical mortality rate. One such operation is prostatectomy, where the post-operative mortality rate during hospitalization is about one percent or slightly higher. We calculated that if the conservative or low rate practice style seen in our New England studies were the national norm, one should expect about 1,900 deaths per annum in the United States following this operation. But if the national norm were the high rate, the number would be about 6,800. The responsibility for further research into the outcome implications for this procedure seems to rest at least in part with the federal government since many of its activities promote the public's use of care and, for this procedure, most of the operations done in the United States are financed by the Medicare program.

There are other important reasons for variations that do not rest on scientific controversies and these provide the best opportunities for immediate savings on the cost of hospitalization. Physicians in some hospital markets practice medicine in ways that have extremely adverse implications for cost because they use the hospital for treating relatively minor illnesses or for performing minor surgery much more often than do most of their colleagues. The professional reasons that lead to a particular practice style are likely to be complex and idiosyncratic--involving matters of professional or patient convenience, inexperience or insecurity on the part of clinicians, individualistic interpretations of the requirement for "defensive medicine", and unexamined viewpoints about the relative risks associated with ambulatory versus inpatient treatment. To one degree or another, most of the medical causes of admission appear to fall into this class as do most minor surgical procedures. Common examples include admissions for virtually all pediatric medical diagnoses, and minor surgery such as a cystoscopy, teeth extractions, sterilization, or breast biopsy. These examples typically exhibit more than a tenfold variation in admission rates among hospital markets. Among the Medicare populations, the common examples include gastro-enteritis, chronic obstructive lung disease, atherosclerosis, bronchitis and asthma, and simple pneumonias.

The consequences for costs of practice styles that favor inpatient over ambulatory settings are large, indeed. Take as the first example the differences in pediatric medical hospitalization rates, which are reflective of the variations that may be expected under Medicaid's program for dependent children. In Maine, a state with about one million residents, the largest hospital market area had utilization rates only 55 percent of the state average over the three-year period of our study. Based on an estimated cost per case of $1,300, we can project a net saving of about $2.5 million in this hospital market over average costs. If the practice style seen in this area were emulated throughout the state, the costs of pediatric medical hospitalizations in Maine during the first three years of this decade would have been about $15.5 million, rather than the estimated $28.3 million--a saving of $12.8 million.

As a second example, consider medical admissions for the population over age sixty-five, that is, those eligible for Medicare. One of the three most populous hospital markets in Iowa hospitalizes the elderly for medical admissions at a rate that is only 66 percent of the state average. Assuming an average cost per case of $2,000, we can estimate a net saving there of $2.2 million for Medicare medical admission in 1980. If the hospitalization rate for this area were the norm for the state, the bill for medical admissions for the 190,000 persons over sixty-five years of age in our study would have been $72 million rather than the estimated $109 million--a saving of $36 million in one year alone.

Let me place these estimates of potential savings in a slightly different context. One hears a lot these days about how the cost crisis is leading to the need to ration medical services. This fear seems to me to be misplaced. The problem is that we are uninformed about the opportunities for reallocating existing resources. If the more conservative, ambulatory-oriented practice styles were to become the norm--and if hospital administrators and trustees translated the decrease in demand for specific services into a reduction in the capacity of the hospital system--then substantial cost savings would follow. Indeed, the resources that can be saved through the more judicious use of hospitals should more than meet the demands for investment in effective new technologies, such as liver transplants, for some time to come.

A PLAN FOR ACTION

What needs to be done?

Let me state at the outset that the goal is emphatically not to obliterate all variations in the practice of medicine nor to reduce the practice of medicine to a cookbook. Obviously, physicians must have freedom to apply their skills as they and their patients see fit. Medicine is as much art as it is science and will always be so. An enterprise as large as medical care will always produce variations in approach. Rather, the goal should be to reduce variations that are highly abberant, that reflect supply factors rather than scientific knowledge or that reflect idiosyncrasies of physicians rather than the values, needs, or wants of their patients.

In the summer 1984 edition of Health Affairs, I suggested a three-part plan for dealing with the practice variation phenomenon in a way that improves health care outcomes and promotes cost-containment. I would like to review the outline of this plan and suggest steps the federal government could take to ameliorate the problems.

Monitoring Performance in Hospital Markets

The first part calls for a closer monitoring of medical practice in local markets, using epidemiologic techniques to create reports giving the numbers per capita of hospital beds, employees and expenditures as well as the rates of use of services and their outcomes. These reports provide an objective means for identifying variations, for assessing practice patterns and for planning corrective actions. Without them, people are simply unaware of what is going on. The reports should be made available routinely to practicing physicians, to state and county medical associations, to Professional Review Organizations (PROs), to hospital administrators, and to others with interest in the measurement of hospital performance. (An excerpt from Health Affairs, including examples of these reports, is included as an appendix to this testimony.)

The data necessary to create the reports are, for the most part, generated already as part of the routine management of health insurance or regulatory programs and are contained in Medicare, Medicaid and Blue Cross/Blue Shield claims systems and in hospital discharge abstracts similar to those used in the DRG program. Because of its national coverage and the richness of its database, the Medicare program offers the best immediate opportunity to implement feedback in all parts of the country. The federal government now requires each hospital to record uniform information on the costs, reasons for hospitalization and treatments for each hospitalization paid for under the Medicare program. When this information is linked to claims data under the Medicare part B program and to patient registration files, a registry is created of the medical care events and certain outcomes for virtually the entire population of the United States who are sixty-five years and older. The many problems for public policy concerning the equity and outcome of care that are illustrated by the variation phenomena, as well as the federal government's own need for effective cost containment, lead me to recommend that this very important national resource be used for this purpose.

Dealing with the Cost-Containment Problem

The second aspect of my plan calls for the use of the reports in a strategy to reduce the use of hospitals for highly variable medical admissions and minor surgery which can be treated effectively and safely in the ambulatory setting. The feedback reports give the information necessary for action: they identify the hospital market areas with costly practice styles for specific discretionary admissions and costly administrative practices with regard to hospital expenditure, bed, and personnel rates. The shift of such patients to the ambulatory setting will neither disrupt the patient-physician relationship nor have a significant negative effect on professional income. If widely implemented, this shift will create the opportunity for an extensive reduction in the resources allocated to hospitals.

Given the current imperatives to contain the costs of medical care and to reallocate resources to more productive ends, it is in everybody's best interest to reduce the use of marginally effective or unnecessary hospitalizations. In some respects, this is already happening. Over the past two years, we have witnessed an important change in practice patterns in the United States as evidenced by a reduction in the long term trend of increasing hospital utilization. This dimunition is the result of pressures from many sources, but the pivotal factor is that physicians are changing their attitudes about how medicine should be practiced. Our data suggest that the changes that have occurred to date should be viewed as just a beginning. We need to create and sustain an environment where cost effective medical practice is the norm.

For this to happen, practicing physicians must take the lead by examining the pattern of utilization in their own communities and, when necessary, adapting their own practice styles and influencing their collegues to adapt theirs to the more cost effective practice patterns. A virtue of this approach is the recognition that decisions on cut-backs in service must be highly selective and specific, and that success depends on an informed and cooperative medical staff. It takes into account the nature of uncertainty concerning the value of most medical services and recognizes the need to make clinical choices that reduce demand for hospitalizations that are not worth the costs. It decentralizes the effort to the sites where clinical decisions are made and provides objective information on variations. Most important, the strategy offers a model for cost containment in which the profession can take a leading, not a defensive, role.

Will practicing physicians participate in such efforts? The evidence I have, based on my experiences in Iowa and New England, is that they will indeed respond. Given information on practice patterns in their local and regional markets, a consensus will emerge that it is safe and in the public interest to reduce hospitalization rates for many of the high variation cases I have listed in exhibit four. Government officials, managers of benefit plans, and representatives of public or private interest groups have exercised important, sometimes decisive influences in persuading the medical profession of the need to respond to the challenge. But lacking as they must a detailed understanding of the nature of medical choices or the particular circumstances of a specific decision, they are in no position to deal with such issues as the necessity for hospitalization for a given patient.

The federal government can make two very specific contributions to promote market reforms based on feedback and review of high variation causes of admission. First, as indicated above, it can assure that the Medicare database is available for the construction of market area specific reports. Second, it can promote population-based utilization review in hospital markets as part of the strategy for implementing the PRO program.

There are important reasons why the federal government should act. With the adoption of the DRG system, new controls on unit costs are now in place. But the level of variation for utilization rates is generally much greater than for unit prices. (Exhibit Five) Since the DRG payments for services in any given hospital market depends upon diagnosis-specific admission rates, per capita reimbursments for most DRGs will typically show a three- and four- and often as much as a tenfold difference among neighboring areas. Many of these DRGs are highly variable because in some communities patients are cared for in the hospital while in others they are treated outside of the hospital.

Some of the variation in the medical DRGs may represent misclassification of patients, so I am reluctant to extrapolate from the variations seen for specific DRGS to predict the savings that might accrue to the Medicare Trust Fund if the PRO program were able to mobilize the physician community to adopt the more conservative practice styles. However, since hospital reimbursements for all causes vary by more than twofold, adoption of the conservative practice styles could easily result in savings that amount to more than 40 percent of the current outlay for hospitals.

Is there danger here of withholding necessary care or decreasing quality? Some expensive procedures are clearly necessary and costs for these will remain high. I am convinced, however, that it is both safe and in the public's best interest to reduce the use of hospitals for most high variation medical and surgical admissions. Many communities with first class medical care systems have low hospitalization rates. We find many examples of low cost markets where most hospitalizations occur within teaching hospitals. I mentioned already the case of the New Haven market area served by Yale teaching hospitals. Others include the local market area of the University of Wisconsin's teaching hospital in Madison where Medicare reimbursments for hospitalizations in 1982 were $876 per enrollee compared to $1515 in Milwaukee and the University of Iowa's area where reimbursements were $734 compared to $1320 in Des Moines.

Dealing with the Effectiveness Problem

The third part of my plan is to design and implement a program to deal with the unanswered questions concerning the outcomes of many common diagnostic and therapeutic interventions. The overriding question is whether a specific intervention undertaken to treat a condition with a known level of morbidity gets a better result than an alternative treatment. High levels of uncertainty cost billions of dollars nationwide and involve potentially thousands of lives. Reducing the level of uncertainty demands a concerted effort on the part of the private sector as well as government, and we have the means to achieve that objective.

The extent of the variation in use of most medical and surgical treatments as well as a critical review of the literature supporting the assertion for efficacy of specific treatments indicates that the number of outcome studies to be done is very large. Priorities will need to be set, new cost-effective health services research methodologies for evaluating outcomes must be invented and adopted, resources to conduct the studies must be made available and the interest of practicing physicians in carrying out the studies and responding to the results must be cultivated.

I think we can count on physician participation in the design and implementation of such studies. By virtue of their inclination as well as their training, physicians want to practice scientifically sound medicine. That is what is expected of physicians and what physicians expect of themselves. When resources are available to support their participation, they respond in a very positive way. I submit as evidence the program of the Maine Medical Association to evaluate practice variations and cite in particular their program to investigate the outcome implications of prostatectomies undertaken for benign prostatic hypertrophy. After becoming aware of the extensive variation in prostatectomy rates among Maine communities, the urologists in Maine, under the leadership of Dr Robert Timothy, undertook an extensive examination of the indications for the operation. As is typical for many common treatments, they could find no studies that provided a longer term, systematic follow-up of unselected patients. Because of this defect in the literature, the probabilities for specific kinds of outcomes--both the good and bad ones--could not be estimated in a meaningful way. To correct the situation, the physicians have undertaken a prospective evaluation of the response of patients to this treatment in order to document the changes in morbidity and functional status that relate to the operation. The study, which will provide information on events for up to a year after surgery, is making an important contribution to reduce uncertainty and ignorance concerning the expected outcomes following this operation.

What can we do to make such efforts routine?

Let me deal first with the medical schools. While the country has made a massive investment in basic bio-medical science, both the Congress and the nation's medical schools have largely ignored the disciplines that deal directly with the problems of improving clinical decisionmaking and evaluating health care outcomes--clinical epidemiology, bio-statistics, and clinical decision analysis. Research to improve medical decision making is an important part of the agenda of schools of Public Health and has received scattered interest from enlightened physicians in many parts of the country. Yet, career opportunities are extremely limited in these disciplines and funding for specific outcome studies seems to be the last on everyone's agenda, except perhaps for randomized trials in selected fields such as cancer chemotherapy. The underdevelopment of these quantitative disciplines in the faculties of the medical schools not only affects the quality and volume of research in this area; it also means that the medical students are receiving little training in the very subjects that promise to make them better evaluators of evidence concerning alternative choices of treatment and more sophisticated participants in studies designed to improve the knowledge base of clinical medicine. If we wish to deal systematically with the clinical dilemmas evidenced by the practice variation phenomenon, we must adjust this imbalance.

How could the federal government help? In addition to the mobilization of the Medicare claims data base I mentioned before, the Department of Health and Human Services could help in a very direct way. Let me close this testimony by suggesting some specific objectives.

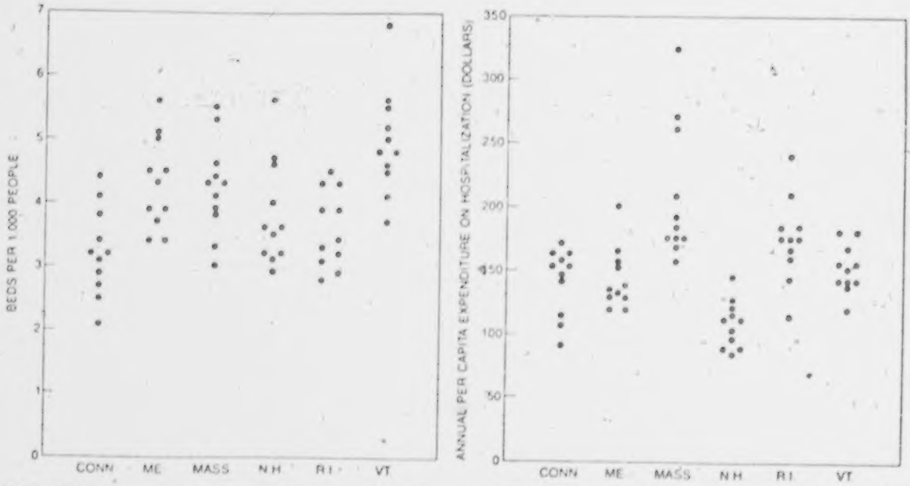
Foremost, the topic must be given visibility and priority. I suggest that HHS should make the goal of reducing uncertainty about the outcome implications of commonly used medical and surgical interventions a high departmental priority.

Second, a lead agency should be designated with responsibility for organizing a national strategy for implementing a program of outcome evaluation. The recent expansion of its mandate to include technology assessment suggests the National Center for Health Services Research for the role of lead agency, but, at the same time, Congress appropriated funds at a level below that available last year. Further, I want to underscore that the evaluative effort I am calling for applies to existing and commonly used medical practices. While assessment of new technology is obviously important, the lack of understanding of the value of existing practices needs special and ongoing attention.

Third, the national strategy should include the development in the medical schools of the quantitative disciplines essential to this task, including epidemiology, bio-statistics, decision analysis and computer sciences. This will provide medical students the analytic tools they need to practice informed, cost-effective medical care. The government could promote this needed instruction by directly supporting educational programs in these areas and by linking government awards to medical schools to the establishment of training programs in these vital areas.

Fourth, as part of this strategy, HHS should design and implement an intra- and extra-mural research program that seeks specifically to improve the knowledge base for services purchased under the Medicare program. My suggestion is that a fixed percentage of the Medicare and Medicaid patient care dollars be earmarked for this purpose. In 1984, expenditure from the Medicare Trust Fund totaled about $33 billion nearly all spent on hospital care. Industries commonly invest directly in development of better products. If one-half of one percent of this amount were invested to find out what portion of this $33 billion is well spent and what represents unnecessary and even harmful uses of public resources, the long term cost containment strategies of the federal goverment would not only be more successful, they would truly promote better health.

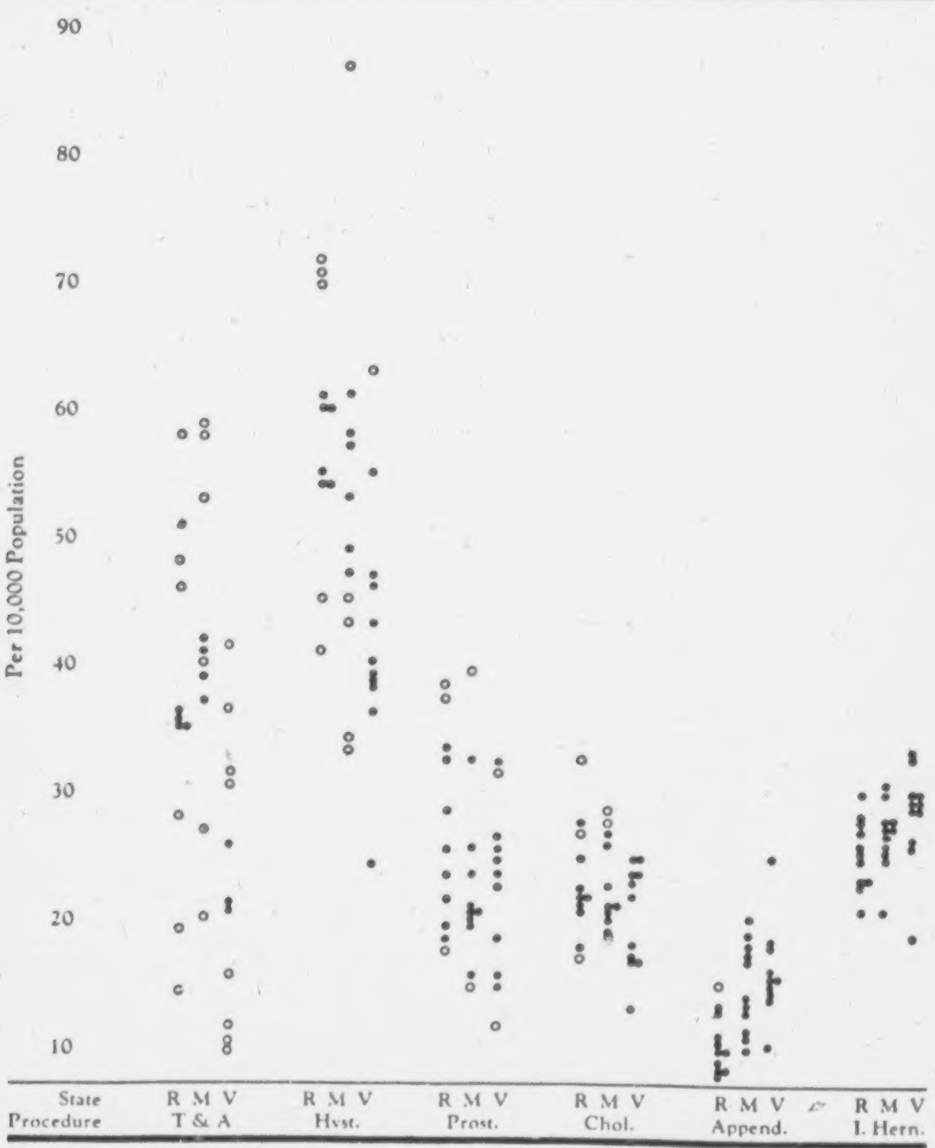
EXHIBIT ONE



NUMBER OF HOSPITAL BEDS per capita and the annual amount spent per capita on hospital treatment also show the influence of geographic variations in medical care. The data are for the 11 most populous hospital areas in each of the six New England states. The number of hospital beds per 1,000 people (adjusted for the number of people who leave their hospital area for treatment) ranges from about two to more than six. The ratios thus range from well below to well above the four beds per 1,000 established by the Federal Health Planning Program as a standard. Furthermore, the variation in each state is so great that the number of beds per capita in the state or county as a whole (a measure often employed by health-planning agencies) bears little relation to the conditions prevailing in each community. The average amount spent on treatment in hospitals in 1975 ranged from less than $100 per capita to more than $300 in the 66 areas.

EXHIBIT TWO

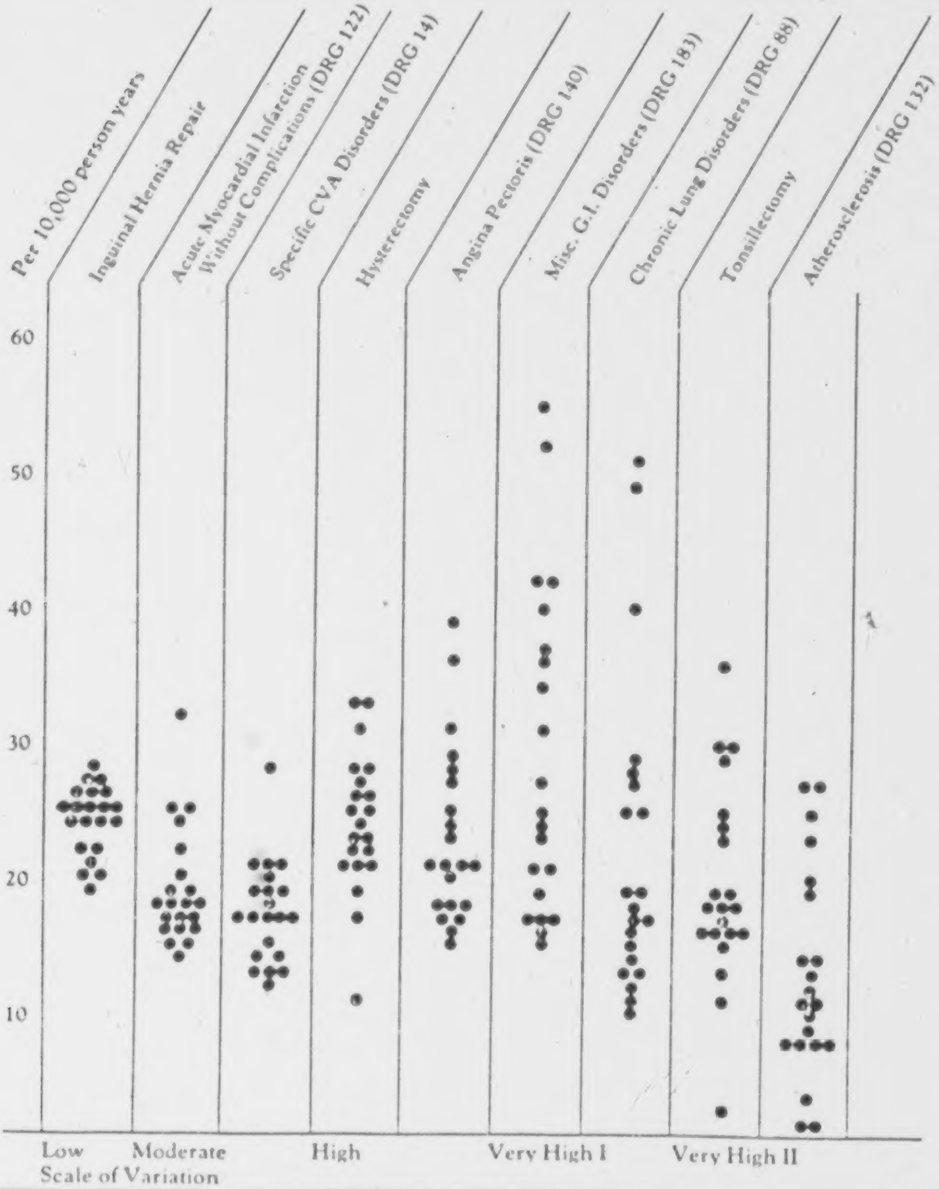
Age-Adjusted Rate Of Procedure For Six Common Surgical Procedures In Rhode Island, Maine, and Vermont (1975)



Note: Rates of surgical procedures vary greatly among hospital areas. The rates shown are for the six most common surgical procedures for the repair or removal of an organ in the eleven most populous hospital areas of Maine, Rhode Island, and Vermont (1975). The rate of tonsillectomy varies about sixfold among the thirty-three areas; the rates of hysterectomy and prostatectomy vary about fourfold. Moreover, many of the extreme rates for these procedures differ from the average rate for the state by an amount that is statistically significant (open circles). There is much disagreement among physicians on the value of the high-variation procedures. Similar patterns of variation for these procedures have been observed in Iowa, England, and Norway. R = Rhode Island, M = Maine, V = Vermont.

EXHIBIT THREE

Age-Adjusted Incidence Of Hospitalization (1980-82) For Selected Medical DRGs And Three Common Surgical Procedures For Maine Hospital Markets



Note: The DRGs with similar statewide rates were selected to demonstrate the spectrum of variation in the incidence of DRG-specific hospitalizations among Maine hospital markets. Each circle represents a hospital market area. The graph is limited to markets with 45,000 person years or greater. The incidence of hospitalization for most DRGs is more variable than for hysterectomy.

EXHIBIT FOUR

Medical And Surgical Causes of Admissions Ranked In Ascending Order Of Variation In Incidence Of Hospitalization (1980-1982)

Medical Causes of Admission

Low Variation

None

Moderate Variation

Acute myocardial infarction
Gastro-intestinal hemorrhage
Specific cerebrovascular disorders

High Variation

Nutrional and metabolic diseases
Syncope and collapse
Respiratory neoplasms
Cellulitis
Urinary tract stones
Cardiac arrhythmias
Miscellaneous injuries to extremities
Angina pectoris
Toxic effects of drugs
Psychosis
Heart failure and shock
Seizures and headaches
Adult simple pneumonias
Respiratory signs and symptoms
Depressive neurosis
Medical back problems
Digestive malignancy
G.I. obstruction
Adult gastro-enteritis
Peripheral vascular disorders
Red blood cell disorders
Adult diabetes
Circulatory disorders exc. AMI, with card cath

Very High Variation

Deep vein thrombophlebitis
Adult bronchitis and asthma
Organic mental syndromes
Chest pain
Transcient ischemic attacks
Kidney and urinary tract infections
Acute adjustment reaction
Minor skin disorders
Trauma to skin, subcut. tiss. and breast
Chronic obstructive lung disease
Hypertension
Adult otitis media and URI
Peptic ulcer
Disorders of the biliary tract

Medical Causes of Admission (cont.)

Pediatric gastro-enteritis
Pediatric bronchitis and asthma
Atherosclerosis
Pediatric otitis media and URI
Pediatric pneumonia
Chemotherapy

Surgical Causes of Admission

Low Variation

Inguinal and femoral hernia repair
Hip repair except joint replacement

Moderate Variation

Appendicitis with appendectomy
Major small and large bowel surgery
Gall bladder disease with cholecystectomy
Adult hernia repairs except inguinal and femoral

High Variation

Hysterectomy
Major cardiovascular operations
Pediatric hernia operations
Hand operations except ganglion
Foot operations
Lens operations
Major joint operations
Stomach, esophageal, and duodenal operations
Anal operations
Female reproductive system reconstructive operations
Back and neck operations
Soft tissue operations

Very High Variation

Knee operations
Transurethral operations
Uterus and andenexa operations
Extra-ocular operations
Misc. ear, nose, and throat operations
Breast biopsy and local excision for nonmalignancy
D & C, conization except for malignancy
T & A operations except for tonsillectomy
Tonsillectomy
Female laparoscopic operations except for sterilization
Dental extractions and restorations
Laparoscopic tubal interruptions
Tubal interruption for nonmalignancy

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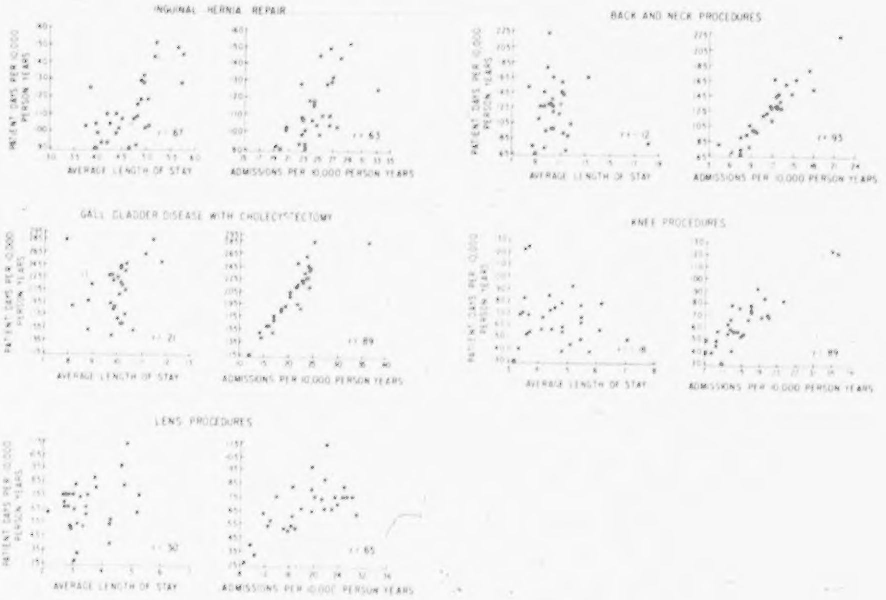
*Causes of hospitalizations are taken from Diagnostic-Related Disease Classification system but cases have been grouped without regard to presence or absence of significant complication. Obstetrical and neo-natal causes of hospitalization are excluded. Ranking is according to the Systematic Component of Variation. Variations are measured across thirty hospital markets. The exhibit lists individually only those with more than 1,500 cases. More than 50 percent of hospitalizations are represented in the exhibit. Classes of variation are defined such that the variation associated with the first entry in a class is significantly more variable than the first entry in the previous class. For additional information see K. McPherson, J.E. Wennberg, O.B. Hovind, and P. Clifford, *The New England Journal of Medicine* 307 (1982) 1310-4

EXHIBIT FIVE



Relation between Total Hospital Days and Admission Rate or Average Length of Stay (in Days) for Inguinal-Hernia Repair and Selected Surgical Modified DRGs, in 30 Maine Hospital Markets.

Most of the variation in hospital days among the hospital markets is associated with differences in admission rates rather than in average length of stay, indicating that admission policies are more important than length-of-stay decisions as factors affecting hospital use. The exception is inguinal-hernia repair, a low-variation procedure.

APPENDIX: MONITORING PERFORMANCE IN HOSPITAL MARKETS*

Hospital markets are characterized by highly variable rates of use for most specific medical treatments, diagnostic tests, and surgical procedures and by widely different resource use rates. The actions that are needed pertain to the clinical management and resource allocation decisions in specific hospital markets. The first step is to monitor and distribute information on the per capita performance in local hospital markets so that decision-making can be modified when appropriate.

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*This appendix has been adapted with permission of the publisher from Health Affairs (Wennberg J. Dealing with Medical Practice Variations: A Proposal for Action. Health Affairs, Summer, 1984, 3(2):6-32.)

What are the essential features of the monitoring I propose? The necessary data are contained in health insurance records such as Medicare, Medicaid, and Blue Shield Claims systems and hospital discharge abstracts similar to those used in the DRG program. Population counts and information on hospital resources, including annual budgets, numbers of facilities and personnel also are needed. For outcome reports, information on survival must be joined to discharge data and to claims data to establish the link between use of medical care, diagnoses, and outcome. Sources for this information exist in many parts of the country and, for the Medicare program, nationwide.

The data should first be used to determine the geographic origin of patients who seek care at specific hospitals. The individual communities of a county or state are then arranged into hospital market areas such that most hospitalizations of local residents occur within area hospitals (and are thus initiated by physicians practicing within the area). Following this strategy, my colleagues and I have defined some 200 hospital markets in the 7 New England states and over 100 in the state of Iowa. The way the markets are organized assures a close association between the medical care experience of the local population and decisions made by health planners, regulators (and, potentially, business coalitions) as well as those of local administrators, hospital trustees, and clinicians. Since information on resource allocation and service use rates is available from all relevant places where care is given (whether in- or out-of-area), the per capita rates are truly population-based and thus may be validly compared.

What do the reports look like? There are three kinds of reports. One series describes the status of resource allocations to specific communities--the number of hospital beds, expenditures, and hospital personnel or the number of physicians invested, per capita in the health care of the local communities. Table One is an example for Boston, Massachusetts and New Haven, Connecticut. Comparisons such as this should be very useful in planning decisions concerning capital expansion projects and in setting hospital budgets under prospective reimbursement plans.

In reviewing the reports, it is important for the reader to understand that virtually all of the hospitalization experience of the resident population is accounted for even if it takes place at hospitals located in other areas. The reports can be used to project the per capita consequences of specific planning or regulatory decisions. They can also be used in cost containment strategies to reduce expenditures in high cost markets by cutting or stabilizing the size of the local hospital industry as indicated by its contribution to the total numbers of personnel and beds per capita. Variations in these indicators are strongly correlated with per capita expenditures; with this information, hospital administrators and trustees can make a direct connection between plant size and employment complements in their specific hospitals and the variations in the total per capita costs.

TABLE ONE

The Quantity Of Hospital Resource: Expended On The Populations Of New Haven, Connecticut And Boston, Massachusetts By Hospitals Providing Resources (1978)

Hospital	Percent of admissions from the local pop.	Beds allocated to local population	Market share	Per Capita Rates[b]		
				Beds	Expend[a]	Personnel
New Haven, Connecticut (pop. est. 372,900)						
Yale-New Haven Univ. Hosp.	68.3	541.6	54.8	1.5	124	5.5
St. Raphael	86.4	416.6	38.1	1.1	82	3.5
Out-of-area hospital	—	65.0	7.1	0.1	9	0.5
All hospitals	—	1023.2	100.0	2.7	215	9.5
Boston, Massachusetts (pop. est. 732,400)						
Boston teaching hospital (N=7)	42.6	1828.0	59.0	2.5	322	13.1
Boston community hospital (N=11)	50.6	843.0	23.3	1.2	54	3.3
Out-of-area hospital	—	524.4	16.7	.7	42	1.8
All hospitals	—	3195.4	100.0	4.4	448	18.2

Note: The estimates for the resources allocated to the New Haven and the Boston populations are made by multiplying the amount of resources provided by each hospital by the percent of admissions that are from the local population (column 2). For example, 542 of the Yale-New Haven University Hospital's total complement of 793 beds are used by the residents of New Haven. The estimate for the total numbers of beds is obtained by summing column 3 which, it will be noted, includes beds from out-of-area hospitals that provided services to the population of New Haven. For comparative purposes, we are particularly interested in per capita rates. The exhibit shows these for beds, numbers of personnel, and inpatient expenditures. All rates are corrected for boundary crossing.

[a] For inpatient services.

[b] Beds and personnel per 1,000 population; expenditures per person.

The reports inevitably raise issues concerning the relationship between the quality of care and the level of resource investment, particularly if the comparisons are between markets with a high proportion of patients who are treated in a university teaching hospital. In Table One, most resident hospitalizations are to well-known hospitals and it might be assumed that per capita costs in each market would be quite high. This is not the case. The New Haven market area ranks in the middle third of all market areas in Connecticut, largely because of its relatively low total numbers of beds and personnel per capita. Contrast this to the situation in Boston where the per capita expenditures are more than double: in New Haven, in 1978, the estimate was $215; in Boston it was $448. The beds allocated to the population of Boston number 4.5 per 1,000 while in New Haven they number only 2.7. The number of employees per 1,000 shows about a two-fold variation.

The differences in resource use depicted in Table One are apparent only when directly measured. They are not intuitively known by those on the scene. I have asked clinicians who have practiced in both Yale and Harvard teaching hospitals to estimate the per capita expenditures in each market. Their answers indicate they have no awareness of the magnitude of the difference; what is more surprising, many do not accurately guess which of the two markets is the more expensive. Nor can the differences be appreciated through the use of traditional indicators of performance, whose validity as measures of market consumption rates depend on the degree to which they correlate with the per capita market rates. Small area research indicates their virtual independence. For example, among the hospital markets of a state, the occupancy rates of local hospitals, their average lengths of stay, and such measures of efficiency as the number of patients treated per bed (properly weighted to measure each hospital's relative contribution to the total experience) show little relationship with per capita number of beds or patient days, inpatient expenditures, and reimbursements per capita.

A second series of reports is concerned with the utilization of specific services for surgical and diagnostic procedures and for causes of admission. Table Two gives an example for diagnostic procedures, showing the rate of use of cystoscopic examination among Medicare residents in 12 Maine Markets defined for urology services (1976-1977). The table is based on claims data from the Medicare Part B Program and the Medicare enrollment file. Note that the cystoscopic rate in the Rumford Market is more than double the rate for the state as a whole, while in the Waterville Market it is only about 54 percent of the average. The range of variation for the "volume" component (the per capita use rate, given in the table as the standardized procedure rate) varies by a factor of more than four while the "efficiency" component--the average reimbursement per cystoscopy (not shown in the table)--varies by less than 20 percent. This is typical of most surgical and diagnostic procedures and illustrates the importance of taking the volume into account in the design of cost containment efforts. The information also raises questions concerning the effectiveness and efficacy of the various practice styles. Note that in Rumford, nearly four per cent of enrollees had cystoscopic examinations, while in Waterville and Calais about one percent of enrollees were examined. What are the risks and benefits of these different patterns of use for this technology? We simply don't have a good answer to that question at this time.

Rates For Cystoscopies Among Maine Medicare Enrollees By Urology Market Area Of Residence (1976-1977)

Urology market area	Enrollees[a]	Number of examinations	Rate[b]	Ratio to state average	Percent of enrollees with one or more examination
Portland	43,192	1,641	3.8	1.33*	2.8
Bangor	29,814	857	2.9	1.00	1.8
Lewiston	16,397	328	2.0	.70*	1.5
Augusta	9,920	235	2.4	.83*	1.7
Waterville	12,886	201	1.5	.54*	1.2
Biddeford	8,212	315	3.8	1.34*	2.6
Rumford	3,895	232	5.9	2.08*	3.9
Presque Isle	6,361	143	2.9	.78*	1.6
Skowhegan	4,203	95	2.3	.79	1.6
Ellsworth	2,805	68	2.4	.85	1.5
Caribou	5,757	125	2.2	.76*	1.8
Calais	1,969	23	1.2	.41*	1.0
State	156,325	4,478	2.86	1.00	2.0

Note: The count of the number of cystoscopic examinations is made from the claims history files of the Medicare program obtained from the carrier, using the appropriate procedure codes to select the relevant records. Reimbursements (not shown) are also tabulated from the claims records. The population counts are for all Medicare enrollees who were in the Part B program in 1977. The percent with one or more cystoscopy is determined by counting enrollees with cystoscopic examinations, rather than number of services.

[a] Enrollee person-year

[b] per 1,000 enrollees

Similar tables have been generated from Medicaid and Blue Shield programs for use in feedback to Maine physicians. Under the feedback strategy I suggest tables such as these should be generated by third party carriers for all commonly used diagnostic and therapeutic procedures.

Hospital discharge data should also be used to generate age-adjusted utilization experiences for specific causes of admission or surgical procedures. Table Three illustrates an example of a report useful for feedback in a DRG-based prospective reimbursement program, designed to draw attention to the importance of admission policies. Note that for medical back problems (DRG 243), the rate in the Portland and Lewiston hospital market areas is less than 60 percent of the average, while in the Augusta and Waterville area it is more than 30 percent higher than the average. Portland area residents experienced more than 560 fewer cases than expected, based on the state average. The cost implications of the variations in admission rate for DRG-based reimbursement programs are illustrated in the table. Over the two-year period, reimbursements for the Portland population under a DRG reimbursement program would be more than $1 million less than expected, based on the state average. In Waterville and Augusta, their combined excess in reimbursements would be $500,000 more than expected. If the Portland use rate were the standard, outlays for medical back admissions in Maine in 1980-81 would have been $7.7 million. If the Waterville rate were the standard, $18.2 million would have been expended. Such displays should be used in DRG programs to bring the variances to the attention of practicing physicians, hospital administrators and other interested parties. The importance of admission rates in determining expenditures is clearly revealed in this table: more than 63 percent of the causes of hospitalization have admission rates that are more variable than medical back problems.

TABLE THREE

Admissions To Hospital For Medical Back Problems (DRG 243)
And For Dental Extractions And Restorations (DRG 187)
Number Af Cases Above (+) Or Below (−) Expected, Based On State Average
Nine Most Populated Maine Hospital Markets (1980-1981)

Market areas	Back Problems: Admissions Observed −Expected*	Back Problems: Standard Rate	Back Problems: Reimburs. Observed −Expected (x$1000)	Dental Extractions: Admission Observed −Expected*	Dental Extractions: Standard Rate	Dental Extractions: Reimburs. Observed −Expected (x$1000)
Portland	−567.1*	.58	−1,048	−149.8*	.49	−122
Bangor	−61.9	.91	−108	−81.9*	.48	−66
Lewiston	−283.9*	.59	−503	−108.2*	.29	−87
Augusta	+162.8*	1.32	+288	−42.0*	.60	−33
Waterville	+150.6*	1.37	+267	−55.1*	.43	−44
Biddeford	−74.0*	.81	−131	+88.6*	2.10	+71
Brunswick	−10.3	.96	−18	+115.9*	2.90	+93
Rockland	+2.7	1.01	+5	+60.0*	2.30	+48
Farmington	−74.0*	.66	−131	−37.7*	.24	−30
All Other	1755.1*	1.27	+1,339	+172.1*	1.18	+140

Note: The input to the table is hospital discharge data, maintained by the Maine Health Information Center and population data from the 1980 census; DRG-specific reimbursement rates are estimated using charge data from the Maryland Hospital Cost Commission for 1980. Column 2 gives the actual number of cases observed among residents of each market area subtracted from the expected number. A plus means more cases than expected, a minus, less. An asterisk indicates that the difference is statistically significant ($p < .01$). The expected number is the age-adjusted number of cases that would have occured to area residents if the state rate had applied. The standardized utilization rate gives the age-adjusted rate for each area expressed as a ratio to the state average. Reimbursements above or below expected are estimated by multiplying the average charge for these DRGs for Maryland by the number of cases above or below expected.

*Observed minus expected, standardized to state average = 1.00

*Significant ($p < .01$)

Dental extractions are among the most variable of causes of admission. Note in Table Three the more than ten-fold range in variation in the standardized utilization rates among the ten individually listed markets in the table. Per capita reimbursements under a DRG program would range from a low of $180 per 1,000 population to a high of $1,860. If the practice style in the Augusta area were the standard for the state, the costs in Maine for this service performed in the in-hospital setting would be about $375,000; if the practice style for Brunswick were the standard, the reimbursements would be ten times higher, or about $3.7 million. Decreasing the use of hospitals for such high variation procedures offers the potential for large reductions in the cost of hospital care. Reports such as these that identify points where savings can be realized should be used in cost containment efforts.

A third series of reports is concerned with outcomes. As I have indicated, the practice style factor can play an important role in clinical decision-making because the scientific evidence on the consequences of using particular treatments is ambiguous or incomplete. Estimates of survival and complication rates following the use of specific treatments for representative populations are frequently not available, even though they are essential for the evaluation of the common practices of medicine as well as for new technology. Claims data offer an inexpensive means for closing this information gap.

Claims data can be used, for example, for evaluating survival prospects or the probability of a secondary operation following the initial treatment of hypertrophy of the prostate by prostatectomy. I have used the Medicare claims data for such purposes in Maine, finding that the mortality rate in the year following prostatectomy was considerably higher than predicted by most of the published literature. The probability of undergoing a second prostatectomy was also quite high, reaching 13 percent by the end of the fifth year. As illustrated below, such information can help physicians deal with the uncertainties revealed by the practice variation phenomenon, leading to a fuller understanding of the consequences of particular decisions and motivating physicians to take the necessary additional steps to improve the scientific basis of medical practice. Reports based on claims data for analysis of survival and complication rates should become routinely available for technology assessment and the evaluation of the consequences of the natural experiments that derive from the medical practice variation phenomenon.

Is it possible to feedback infomation to physicians efficiently? Although this idea was first proposed by William Farr and Florence Nightingale well over 100 years ago, recent advances in computer technology, bio-statistics, and epidemiology only now make it feasible to produce routinely the reports I am suggesting here. Furthermore, the necessary data are becoming available in many parts of the country. Large, computerized, population-based data files, comprised of hospital discharge records and health insurance claims, now exist in the public and the private sector. Several large states -- California, Maryland, Massachusetts, New Jersey, New York, and Iowa -- now have state statutes that require hospitals to submit information on the cases they treat to publicly controlled databases. Public use databases have been key in our efforts to initiate feedback in the state of Maine. In the late 1970s, primarily under the leadership of David Smith, Alice Russell, and David Soule, the public use of hospital discharge data became a reality with the founding of the Maine Health Information Center.

American corporations, particularly large employers such as the American Telephone and Telegraph Company, are beginning to access their own records as a means for managing employee benefit packages. But for purposes of monitoring the activities of local markets, corporate databases, used by themselves, have severe limitations because, as a rule, no single corporation has enough employees to allow for valid statistical inferences on practice variations in specific hospital markets. Rather, corporations and business or labor coalitions that want to use hospital market data in their cost containment strategies should support the development of public data bases on a regional or state-wide basis, as exemplified by the Maine Health Information Center. They could also promote information feedback by using their influence as large purchasers of care to insist that third party carriers publish reports on expenditures and service use rates in local hospital markets (such as shown in Table Two). Using claims pooled from all Blue Cross accounts, John Putnam of Maine Blue Cross has shown how that organization can provide very important information on variations.

Because of its national coverage and the richness of its database, the Medicare program offers the best immediate opportunity to implement feedback in all parts of the country. The federal government now requires each hospital to record uniform information on the costs, reasons for hospitalization and treatments for each hospitalization paid for under the Medicare program. When this information is linked to claims data under the Medicare part B program and to patient registration files, a registry is created of the medical care events and certain outcomes for virtually the entire population of the United States who are sixty-five years and older. The many problems for public policy concerning the equity and outcome of care that are illustrated by the variation phenomena, as well as the federal government's own need for effective cost containment, lead me to recommend that this very important national resource be used for this purpose.

Dr. WENNBERG. Thank you, Senator Proxmire. I am very pleased to be here today to talk about a subject which I think is of the utmost importance.

My research into geographic patterns of health care delivery reveals extensive variation in the use of hospital services among communities located right next to one another. The extent of the variation in reimbursements to hospitals under the Medicare Program is such that if the low-cost patterns of care were the norm, the Medicare Program would not be now faced with a pending bankruptcy of the Medicare trust fund, nor would we be now concerned with the question of the rationing of medical health care.

For many medical or surgical conditions, the variations suggest opportunities to reduce expenditures under the Medicare and Medicaid Programs without reducing the benefits of medical care. For other conditions, the variations reveal a critical need to evaluate the outcomes of different approaches to treatment so that patients and physicians may better understand the significance of their choices in using medical care.

Before concluding my testimony, I will describe a plan to address the cost containment of and outcome assessment imperatives revealed by the variations and make some specific suggestions as to how the Department of Health and Human Services can contribute.

Now, I would like to take the opportunity to show a few slides to try to clarify the variation topic.

Over the last few years, I have been studying the cost of medical services and the use of medical services among different communities in New England. We have found that the cost per capita for hospitalization varies by a factor of two from one community to the other within the boundaries of the State, such as Vermont, New Hampshire, Massachusetts, or Iowa.

Now, I have on this slide an example of the range of variations we are talking about. [Slide.]

This is data from 1978, which Dr. Gittelsohn and I published a couple of years ago in Scientific American, but it is typical of what we now see.

On the left we see Connecticut. Connecticut's cost per capita in different hospital markets ranges from less than $100 to around $175 per head in 1978.

But now look over at the middle of the graph for Massachusetts, where we see costs going from $150 all the way up to over $300 per day in each of the different communities.

Now, in considering this information, it is extremely important to understand that we have corrected for boundary crossing. In other words, we are talking about the amount of money actually spent on residents of, say, Boston or New Haven.

Now, I would like to——

Senator PROXMIRE. You said that in Connecticut daily hospital costs ranged from $100 to $175 per capita and in Massachusetts there are some hospitals, I take it, or some cities——

Dr. WENNBERG. Some cities.

Senator PROXMIRE [continuing]. Where it costs as much as $300 per day?

Dr. WENNBERG. Exactly. You might be able to guess the more expensive ones.

Senator PROXMIRE. Let me just ask you to compare New Haven and Boston, because you have as I understand it, Connecticut has a higher per capita income than Massachusetts has——

Dr. WENNBERG. Right.

Senator PROXMIRE. In fact, Connecticut has the highest income per capita in the country but it has much lower per capita hospitalization costs, is that right?

Dr. WENNBERG. Right. Well, in that particular——

Senator PROXMIRE. Per person.

Dr. WENNBERG. In that particular graph, you will see Boston hanging at the top in the Massachusetts distribution, some $320 per capita.

Now, the Yale/New Haven and Boston comparisons are interesting because in each area most patients are hospitalized university hospitals, so the quality of care in those areas is not in question.

The Yale/New Haven area ranks about in the middle of the distribution for Connecticut, about $150 per capita which is 50 percent as much as spent on Bostonians.

I have another statistic which I would like to read to you.

Senator PROXMIRE. I don't want to interrupt too often because I know you have a long statement and we want to get through it as fast as possible because we have other witnesses coming, but can you pick out any reason why there should be this surprising and shocking difference with hospital costs being twice as high in Boston as in New Haven?

Dr. WENNBERG. I can give you the immediate reasons. The reasons are because there are more beds and more employees in the hospital industry per 1,000 population in Boston than there are in the Yale/New Haven area. This association between hospital beds and employees and per capita costs is seen in all our studies.

Senator PROXMIRE. More beds should, on a marketing basis, a business basis, make hospital care cost less, shouldn't they?

Dr. WENNBERG. The competitive model.

Senator PROXMIRE. Well, if the product you are selling, which is health—selling is kind of a crass term to use under these circumstances—but if the product you are selling is abundant, if the supply is abundant, the price ought to be lower. If the supply of hospital beds is high, the price of hospital beds ought to be lower.

Dr. WENNBERG. The classic economic theory would suggest that, but in the practicalities of medical care economics it is not the case.

Senator PROXMIRE. Can you quickly tell us why?

Dr. WENNBERG. There are many reasons for it, but I can say one of the most important but least understood is the way insurance premiums are established. There is little immediate feedback on the local population concerning the costs in their market. People in Boston are heavily subsidized by the Medicare trust fund, by money collected into the trust fund from the rest of the country, where costs are lower. That is one good reason no one worries a lot about costs in Boston.

But I think the important issue for this particular conversation is: How are those resources used?

Before I get on to that, let me make one other point that is relevant to the Medicare Program.

We calculated that if the New Haven practice style applied to Boston, then the cost for the Medicare Program in 1983 would have been $85 million for the enrollees living in Boston rather than the $146 million which, in fact, was spent. The difference is $61 million.

That gives you an idea of the kind of money that can be saved if lower cost approaches were adopted in the higher cost markets. You can see why I am optimistic. If we can attack the cost containment problem constructively, we can put off the trust fund bankruptcy issue for a long time.

Now, the key question: How are these different levels of resources used? When you have a lot more hospital beds, how do you fill them? On what do you expend the money?

The studies I have done give some important answers. Let me illustrate with a slide showing the rates per capita for common surgical procedures. [Slide.]

Note from the slide that the rate for hernia operations does not vary much between these areas, at the most by a factor of 1.5. But look at tonsillectomies. You see the rate varies sixfold, going from 10 to 60 procedures per 10,000.

Now, the pattern of variation for specific operations in each of these States are consistent. The rates for inguinal hernia do not vary in Rhode Island, Maine, and Vermont as much as they do for hysterectomy or prostatectomy. The same is true in Iowa and Norway. Each of these countries have similar patterns of variation, even though methods of organizing and financing care vary.

What distinguishes the low-variation procedures? The distinguishing feature is a concensus among professionals for the need for hospitalization and for that mode of treatment.

Another example——

Senator PROXMIRE. Now, what that shows is that the number of procedures that you have in that second line is about three times as high or four times as high as the number you have in the next to last line?

Dr. WENNBERG. Yes; basically, we are dealing with a sixfold to eightfold difference in the rates for hysterectomy or tonsillectomy here but much less difference for inguinal hernia or appendectomy.

So what I am saying is that some procedures and operations do not vary in relation to the amount of available beds and total manpower supply, but others are sensitive to it. As we invest more resources, the highly variable conditions are the ones that get in the hospital.

It is not as if you are dealing here with a finite amount of need, as if care were rationed in markets with low beds per capita. As beds are added cases are admitted which in other areas are treated many physicians believe can be done in the outpatient department or perhaps not done at all in the case of certain discretionary opertions. Is it better to do these operations? No one really knows.

We are not talking only about surgery. We find that 90 percent of the DRG cases—medical as well as surgical—show more variation than hysterectomy which as you characterized in your opening statement, is an operation with a great deal of discretion.

The Government is paying sixfold to eightfold, sometimes twentyfold differences in per capita costs simply because the admission rates for these DRG's vary as much as they do.

So if we are going to get at the cost issue, we are going to have to get at the issue of volume, the question of whether the admission is appropriate, whether it is needed, not on how much we are paying per unit of service. At this point in our history, we need to know what the health outcomes are.

Now, may I read to you my recommendation?

Senator PROXMIRE. Yes, sir.

Dr. WENNBERG. I think it's important to keep in mind the two specific reasons for variation. There are two specific reasons for variation. One is that——

Senator PROXMIRE. Before you get into that subject, let me raise a question that must be on the mind of everyone in this room. Is there any reason to suspect that those communities that don't have a high rate of surgery, for hysterectomies or tonsilectomies, for example, suffer a higher number of fatalities or increased complications that inhibit health or life?

Dr. WENNBERG. Well, that certainly is a bottom-line question. Now the problem here is that for many common conditions, the necessary clinical studies that could answer that question simply have not been done. The variations I have listed here for prostectomies and common operations can occur because of lack of professional consensus on what the appropriate level of technology should be in these examples. And it's critically important that we invest resources in efforts to discover which rate is right. The question remains the fundamental one.

I can't tell you which is the correct rate for a specific procedure, like a prostectomy. I can only say they vary and that the existing medical literature provides weak evidence as to the appropriate use of this operation.

Senator PROXMIRE. Are you confident that by doing adequate research at a reasonably modest cost, we could get an answer to that question?

Dr. WENNBERG. I'm confident that that step must be taken and the answers will be forthcoming. I am not confident that we can fund one study that's going to give us the answer. We do have to pay continuing attention to that problem.

Let me draw attention to another reason for variation. Many of the conditions we are talking about represent minor surgical procedures, or medical admission where the variations occur because in some market areas patients are more often treated in the outpatient setting while in others they are treated as inpatients..

It is these examples of variation which provide the greatest opportunity for the immediate savings for the trust fund. The opportunity is to promote, where appropriated, the consensus, that it is safe and in the public interest to treat the patient in the ambulatory setting rather than inpatient setting. Here, we are talking about teeth extractions, minor surgery and simple pneumonia. For these causes of admission there is a twentyfold difference in the per capita rate between the market areas. It is clear that in the low rate areas relatively more patients are treated in an ambulatory setting. It is the differences in rates of admission for minor illnesses and minor surgery which give me the courage to tell you we can make a substantial inroad to the trust fund problem if we pay attention to the variation issue.

To do this, I have proposed in my written testimony a three-part plan. The first part of my plan is to use available information to create reports that allow physicians and people generally to know what the rates are in their local markets. It may amaze you to learn that the differences I quoted you in cost per capita between Boston and New Haven were not known to anyone before the data became available. When I would ask physicians in these different areas whether they thought hospital per capita costs in Boston were higher than in New Haven, they had no idea. In fact, they would rarely venture a guess about the direction of the differences. Clinicians deal with the individual patient and hospital and are not used to thinking in terms of resources allocated to communities.

I think it's terribly important that we use our existing data systems to develop reports that let physicians and hospital administrators, and people generally, know what the per capita costs are in market areas.

In my testimony, I make a specific suggestion that Medicare and Medicaid data systems should be used for this purpose. They are a national asset which can be used to point out the differences from community to community and to identify those market areas with such high use patterns that we need to reconsider the appropriateness of hospitalization.

The second part of my suggestion is that physicians should be challenged to examine the highly variable causes of admission which may well be safely done in the outpatient environment, and to make the decision to move them into that setting, when appropriate.

The Federal Government can help substantially in this process if they introduced population-based utilization review into the Peer Review Organization Program—which is just now getting started. Targets have been set in that program to reduce utilization, but these targets should be highly individualized to the specific communities where rates are high. Clearly, it doesn't make much sense to reduce rates equally in low and high rate areas.

I am asking here that specific attention to be paid to market variations. The PRO Program represents a very good opportunity to get going on this task, and soon.

Now, the third aspect of my plan is to attack the long-term issue: What are the outcome implications of the different ways medical problems are handled? We have paid too little attention over the past years to the question of outcomes. Since we put so much money into the research programs of the National Institutes of Health, we have assumed that, somehow, at the other end of the pipeline, out comes effective medical practice. This is simply not the case. We have not put enough resource and effort into the question of evaluating the outcome of common medical practices.

My hope is that this hearing today will spark an initiative that will move the Federal Government toward making this a priority area. This is the first step: Recognize it as a priority. It has not been a priority at all.

Second, a lead agency is needed for this case—and I suggest the National Center for Health Services Research are the likely candidate. But it has been under funded, at a level below last year, even though technology assessment has been added to its budget. Something should be done about this.

My third suggestion is that administration and Congress should build the capability to undertake outcome studies in the Nation's medical schools. We have under-emphasized epidemiology, biostatistics, and clinical skills needed to evaluate medical care outcomes. Our faculties around the country do not have the basic staff and manpower to undertake this massive job. We need to readdress that problem.

Finally, in my testimony, I suggest that a certain fixed proportion of fee of Medicare trust fund should be allocated to outcome studies in the Medicare population. Why, when the Federal Government pays such an enormous amount for hospital care—$33 billion in 1983—does it invest virtually nothing to find out whether the product is worthwhile.

My suggestion is that we should invest one-half of 1 percent of the trust fund in outcome assessments to learn about what is going on with regard to the puzzling variations in surgical procedures, and medical treatments so both physicians and then patients can know which approach is right for them.

I believe that's approximately what I wanted to say.

Senator PROXMIRE. Well, thank you very much, Dr. Wennberg. I take it then your recommendations are as follows: No. 1, variation data should be shared with the medical profession; No. 2, the use of hospitals for procedures that can be done on an outpatient basis should be reduced; and, No. 3, more outcome studies should be undertaken.

You believe that if we take these steps we will be in a position to protect the health of Americans, maybe improve it and, certainly, substantially reduce its cost.

Dr. WENNBERG. Thank you.

Senator PROXMIRE. Thank you, sir.

We will be asking you additional questions a little later, but thank you for that initial testimony.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Care Financing Administration

STATEMENT OF HENRY DESMARAIS, M.D., DIRECTOR, BUREAU OF ELIGIBILITY REIMBURSEMENT AND COVERAGE

PREPARED STATEMENT

Senator PROXMIRE. Our next witness will be Dr. Henry Desmarais, Director of the Bureau of Eligibility Reimbursement and Coverage of the Health Care Financing Administration.

Dr. Wennberg, as the lead-off witness, has set the stage, and I hope you and the other administration witnesses can each limit your testimony to 10 minutes or so, so that we will have more time for questions. Your statement will be inserted in the record at this point.

[The statement follows:]

STATEMENT OF DR. HENRY DESMARAIS

INTRODUCTION

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE, I AM PLEASED TO BE HERE TODAY TO DISCUSS VARIATIONS IN MEDICAL PRACTICE AS THEY AFFECT THE MEDICARE AND MEDICAID PROGRAMS. I WOULD LIKE TO BRIEFLY SUMMARIZE SOME OF THE EFFORTS THE HEALTH CARE FINANCING ADMINISTRATION IS MAKING TO IDENTIFY THE REASONS FOR THESE VARIATIONS IN TREATMENT PATTERNS AND DESCRIBE THE INITIATIVES WE ARE TAKING TO STRUCTURE INCENTIVES IN THE MEDICAL CARE SYSTEM TO REDUCE SUCH INSTANCES. AVOIDANCE OF UNNECESSARY OR INAPPROPRIATE CARE THAT STEMS FROM VARIATIONS IN MEDICAL PRACTICE CAN ONLY BENEFIT PATIENTS WHILE ASSURING THAT MEDICARE AND MEDICAID DOLLARS SUPPORT ONLY NEEDED SERVICES.

EVIDENCE OF PROBLEM

FOR NEARLY A DECADE NOW, WE HAVE BEEN STUDYING AND REPORTING AREA VARIATIONS IN HEALTH CARE USE IN THE MEDICARE PROGRAM. WE HAVE DOCUMENTED WIDE DISPARITIES IN ADMISSION RATES, AVERAGE LENGTH OF STAY AND COST PER ADMISSION AND HAVE ATTEMPTED TO IDENTIFY THE FACTORS THAT ACCOUNT FOR THESE DIFFERENCES.

PRIOR TO IMPLEMENTATION OF THE HOSPITAL PROSPECTIVE PAYMENT SYSTEM, MEDICARE HOSPITAL ADMISSION RATES DIFFERED BY REGION BY AS MUCH AS 22 PERCENT AND REGIONAL AVERAGE LENGTH OF STAY DIFFERED BY AS MUCH AS 45 PERCENT. EVEN WHEN ADJUSTMENTS WERE MADE FOR DEMOGRAPHIC FACTORS -- AGE, SEX, AND RACE -- LARGE DIFFERENCES REMAINED. FURTHER, COMPARING EXPERIENCE FOR THE SAME DIAGNOSES (ADJUSTING FOR CASE-MIX) MADE ALMOST NO IMPACT ON THESE DIFFERENCES.

THESE LARGE VARIATIONS ARE NOT CONFINED TO HOSPITAL DAYS OF CARE. THE USE OF INTENSIVE CARE FACILITIES, AND ANCILLARY SERVICES ALSO CONTRIBUTES TO THE DISPARATE NATURE OF CARE PROVIDED. BEFORE PROSPECTIVE PAYMENT, WE FOUND PAYMENTS FOR TREATING A HEART ATTACK RANGING FROM $1500 AT ONE HOSPITAL TO $9000 AT ANOTHER; HIP REPLACEMENTS VARYING FROM $2100 TO $8200.

DR. JOHN WENNBERG, ALSO TESTIFYING HERE TODAY, HAS BEEN INSTRUMENTAL IN FOCUSING ATTENTION ON THE PHENOMENON OF AREA DIFFERENCES IN MEDICAL PRACTICE, DOCUMENTING ITS OCCURRENCE, AND PROMOTING THE DEVELOPMENT OF SOLUTIONS. HE HAS EXTENDED THE STUDY OF VARIATIONS TO THE SMALLEST RELEVANT GEOGRAPHIC AREA -- THE HOSPITAL MARKET -- AND OBSERVED CONSIDERABLE DIFFERENCES BY JUST MOVING FROM ONE HOSPITAL MARKET TO ANOTHER WITHIN THE SAME GENERAL AREA.

THESE KINDS OF VARIATIONS IN TREATMENT PATTERNS FOR A NUMBER OF CONDITIONS HAVE BEEN FOUND OVER AND OVER AGAIN AND CONTINUE TO PERSIST AFTER EVERY MEASURABLE ADJUSTMENT HAS BEEN MADE. DR. WENNBERG HAS SUGGESTED THAT "PRACTICE STYLE" IS ONE OF THE REMAINING EXPLANATIONS. ONE CAN CONCLUDE THAT AT LEAST SOME OF THIS CARE IS UNNECESSARY AND RESULTS IN UNNECESSARY EXPENDITURES FOR PAYORS AND CAUSES UNNECESSARY RISKS FOR PATIENTS.

ANOTHER EXPLANATION FOR VARIATIONS IN TREATMENT PATTERNS WAS INDICATED IN A STUDY RECENTLY CONDUCTED BY THE HEALTH PLANNING COUNCIL OF GREATER BOSTON. THE STUDY FINDINGS

SUGGEST THAT PHYSICIANS OFTEN DISAGREE ON TREATMENT INDICATIONS BECAUSE THERE HAVE BEEN RELATIVELY FEW MEDICAL OR SURGICAL THERAPIES THAT HAVE HAD THE BENEFIT OF CONTROLLED STUDIES TO EVALUATE THE RESULTS OF THERAPIES. THEREFORE, IT IS NOT SURPRISING THAT PHYSICIANS TEND TO BASE THEIR DECISIONS ON THEIR OWN PERSONAL EXPERIENCES, OR A PARTICULAR SCHOOL OF THERAPY THAT THEY HAVE BEEN EXPOSED TO IN THEIR TRAINING, AND ON THE PREFERENCES OF THE PATIENT, AMONG OTHER FACTORS.

RESTRUCTURING INCENTIVES

WE BELIEVE THAT PHYSICIANS HAVE MADE A TREMENDOUS CONTRIBUTION TO THE MEDICARE PROGRAM IN PROVIDING HIGH QUALITY CARE TO OUR BENEFICIARIES. HOWEVER, MORE THAN EVER BEFORE, PHYSICIANS MUST RECOGNIZE THAT THEY MUST PRACTICE IN AN ENVIRONMENT OF LIMITED RESOURCES. PRIMARILY FOR THIS REASON, THE CONGRESS AND THE ADMINISTRATION, BY INITIATING THE MEDICARE PROSPECTIVE PAYMENT SYSTEM (PPS) MADE A LONG TERM COMMITMENT TO CHANGING INCENTIVES IN THE HEALTH CARE SECTOR TOWARD GREATER EFFICIENCY AND ECONOMY.

UNNECESSARY CARE IS EVIDENCED IN A VARIETY OF WAYS. THESE INCLUDE:

-- UNNECESSARY HOSPITAL ADMISSIONS
-- UNNECESSARY HOSPITAL DAYS
-- INAPPROPRIATE PROCEDURES
-- UNNECESSARY TESTS AND SERVICES.

WE BELIEVE THAT MUCH OF THIS INAPPROPRIATE CARE CAN BE ELIMINATED BY RESTRUCTURING THE INCENTIVES IN THE FINANCING SYSTEM. WE DO NOT WISH TO PRESCRIBE SPECIFIC TREATMENTS OR PRACTICE PATTERNS. RATHER, WE WISH TO DESIGN INCENTIVES THAT WILL ENCOURAGE PHYSICIANS TO EXAMINE THEIR OWN PRACTICE PATTERNS AND MAKE CHANGES WHERE APPROPRIATE.

THE HEALTH CARE FINANCING ADMINISTRATION (HCFA) HAS TAKEN A NUMBER OF STEPS IN THIS DIRECTION. FIRST, THE NEW MEDICARE PROSPECTIVE PAYMENT SYSTEM FOR HOSPITALS, WITH PROSPECTIVE PRICING BY DIAGNOSIS-RELATED GROUPS (DRGS), GIVES HOSPITALS POWERFUL FINANCIAL INCENTIVES TO REDUCE UNNECESSARILY LONG LENGTHS OF STAY AND ELIMINATE UNNECESSARY TESTING AND SERVICES. ONCE IT IS FULLY PHASED IN, THE DRG SYSTEM WILL PAY ALL HOSPITALS ESSENTIALLY THE SAME AMOUNT PER DIAGNOSIS, GENERALLY WITHOUT REGARD TO LENGTH OF STAY OR NUMBERS OR KINDS OF TESTS. AN EAST COAST HOSPITAL AND A WEST COAST HOSPITAL WILL BE PAID ROUGHLY THE SAME AMOUNTS FOR THE SAME DIAGNOSIS DESPITE THEIR HISTORIC LARGE DIFFERENCES IN LENGTH OF STAY.

I FEEL QUITE SAFE IN PREDICTING A RAPID NARROWING IN THOSE HISTORIC DIFFERENCES WITHOUT JEOPARDIZING THE QUALITY OF CARE PROVIDED TO PATIENTS. IN FACT, AS A RESULT OF THE ECONOMIC INCENTIVES INTRODUCED BY PPS, MANY HOSPITALS ARE NOW REVIEWING INDIVIDUAL PHYSICIAN PRACTICE BEHAVIOR. PHYSICIAN EDUCATION EFFORTS, OR EVEN THE THREAT OF WITHDRAWAL OF HOSPITAL PRIVILEGES, ARE TOOLS THAT CAN BE USED TO ALTER PRACTICE BEHAVIOR.

PEER REVIEW ORGANIZATIONS

COMPLEMENTARY TO THE NEW PAYMENT SYSTEM IS THE NEW PEER REVIEW ORGANIZATION (PRO) PROGRAM. THESE ORGANIZATIONS WILL DETERMINE WHETHER INPATIENT SERVICES PROVIDED TO MEDICARE BENEFICIARIES ARE MEDICALLY NECESSARY, FURNISHED IN THE APPROPRIATE SETTING, AND ARE OF A QUALITY WHICH MEETS PROFESSIONALLY RECOGNIZED STANDARDS. THE INTENT OF THE NEW PRO PROGRAM IS TO DIRECT REVIEW ACTIVITIES TOWARD THOSE QUALITY, COST, AND UTILIZATION AREAS MOST LIKELY TO BE AFFECTED BY PPS. SPECIFICALLY, WE EXPECT THAT PRO REVIEW WILL AFFECT PHYSICIAN TREATMENT PATTERNS IN THE FOLLOWING WAYS:

o REDUCE THE NUMBER OF ADMISSIONS FOR PROCEDURES THAT COULD BE PERFORMED EFFECTIVELY AND WITH ADEQUATE ASSURANCE OF PATIENT SAFETY IN AN AMBULATORY SURGICAL SETTING OR ON AN OUTPATIENT BASIS. PREADMISSION REVIEW, A KEY ELEMENT IN THIS REVIEW ACTIVITY WILL ENCOURAGE PHYSICIANS TO EXAMINE CASES MORE CLOSELY IN DECIDING WHETHER A NECESSARY PROCEDURE MAY BE PROVIDED IN AN AMBULATORY OR ON AN OUTPATIENT BASIS. AN EXAMPLE IS CATARACT SURGERY WHICH MAY OFTEN BE PERFORMED ON AN AMBULATORY OR OUTPATIENT BASIS. WE EXPECT PREADMISSION REVIEW IN THIS AREA WILL RESULT IN A SHIFT OF A SIGNIFICANT NUMBER OF PROCEDURES TO AN AMBULATORY OR OUTPATIENT SETTING.

o REDUCE THE NUMBER OF INAPPROPRIATE OR UNNECESSARY "INVASIVE" PROCEDURES. EFFORTS AIMED AT ELIMINATING UNNECESSARY CARE WOULD IMPROVE THE QUALITY OF CARE OVERALL. FOR EXAMPLE, IN A REVIEW OF MEDICAL RECORDS

OF CORONARY BYPASS PROCEDURES, THE ARIZONA PRO DETERMINED THAT THESE PROCEDURES HAD A HIGH FREQUENCY RATE IN ONE PARTICULAR AREA OF THE STATE. THIS PATTERN ALSO INDICATED A SIGNIFICANT POTENTIAL FOR OVERUTILIZATION. BASED ON THIS REVIEW OF AVAILABLE BASELINE DATA, THE PRO PHYSICIANS ELECTED TO FOCUS REVIEW ACTIVITIES IN THIS AREA. THE OVERALL PRO IMPACT IN THIS AREA IS EXPECTED TO RESULT IN A SIGNIFICANT REDUCTION OF UNNECESSARY "INVASIVE" PROCEDURES.

- REDUCE THE NUMBER OF UNNECESSARY ADMISSIONS. IN MEETING THEIR CONTRACT OBJECTIVES, PROS WILL FOCUS ON SPECIFIC DIAGNOSES AS WELL AS ON PROCEDURES IN HOSPITALS (OR BY SPECIFIC PHYSICIANS). SUCH FOCUSING WILL DIRECT THE ATTENTION OF PHYSICIANS TO ADMISSIONS THAT ARE UNNECESSARY. WE ALSO EXPECT PROS TO HAVE A MAJOR IMPACT IN THIS AREA.

WE VIEW THE INTENT OF THE PRO MEDICAL REVIEW PROCESS TO BE EDUCATIONAL RATHER THAN PUNITIVE AND HAVE MADE A NUMBER OF EFFORTS TO IMPROVE COMMUNICATION BETWEEN HCFA, THE HOSPITAL, AND THE MEDICAL COMMUNITY. THUS, IF A PRACTITIONER IS DETERMINED TO BE ADMITTING TOO OFTEN, THE PRO SHOULD WORK WITH HIM OR HER TO REDUCE THOSE ADMISSIONS. IF ADMISSION RATES IN ONE AREA EXCEED THE NATIONAL NORM FOR A PARTICULAR DIAGNOSIS, THE PRO SHOULD INVESTIGATE THE SITUATION AND TAKE CORRECTIVE ACTION WHEN NECESSARY. A PRO IN ONE AREA MAY FOCUS ON CERTAIN DRG'S LIKE CATARACT EXTRACTIONS AND A PRO IN ANOTHER AREA MAY CONCENTRATE ON HYSTERECTOMY RATES, THUS FOCUSING ON LOCAL PRACTICE PATTERNS.

HMOs

THE PROBLEM OF UNNECESSARY ADMISSIONS IS ALSO BEING ADDRESSED DIRECTLY BY THE FOSTERING OF HEALTH MAINTENANCE ORGANIZATIONS (HMOS). HMOS ARE PAID AN ANNUAL AMOUNT FOR ALL COVERED CARE FOR A PATIENT. THIS PLACES THE PROVIDER AT RISK AND DISCOURAGES INEFFICIENT AND UNNECESSARY CARE. PRESSURES OF THE MARKET PLACE DEMAND THAT ONLY NECESSARY AND APPROPRIATE CARE BE FURNISHED. HMOS HAVE DEMONSTRATED THAT THEY CAN SAVE MONEY BY REDUCING HOSPITAL ADMISSIONS. UNDER DEMONSTRATIONS FOR HCFA, HMOS HAVE ALSO SHOWN THAT THEY CAN PROVIDE ALL MEDICARE BENEFITS EVEN THOUGH THEY ARE BEING PAID LESS THAN THE FEE-FOR-SERVICE SECTOR. FOR ADDITIONAL PREMIUMS, MANY HMOS OFFER ENHANCED BENEFITS TO INDUCE INCREASED BENEFICIARY ENROLLMENT. IN THE NEAR FUTURE, HCFA WILL BE PUBLISHING FINAL REGULATIONS THAT WILL ENCOURAGE GREATER PARTICIPATION OF HMOS IN MEDICARE. WE WILL PAY HMOS 95 PERCENT OF THE AVERAGE COSTS OF PROVIDING MEDICARE SERVICES IN A SPECIFIC GEOGRAPHIC AREA. SAVINGS WILL BE SHARED BETWEEN THE HMO AND THE MEDICARE BENEFICIARIES IN THE FORM OF ADDITIONAL BENEFITS OR REDUCED COST SHARING. WE EXPECT A DRAMATIC RISE IN HMO ENROLLMENT FOR MEDICARE BENEFICIARIES -- UP BY AS MANY AS 800,000 BENEFICIARIES IN THE NEXT THREE OR FOUR YEARS, WITH A 50 TO 100 PERCENT INCREASE IN THE NUMBER OF CONTRACTS BETWEEN HMOS AND MEDICARE. IN FACT, LAST YEAR WE SAW NEARLY A 20% INCREASE IN HMO ENROLLMENT. WE ARE OPTIMISTIC THAT THE ADDITION OF THIS COST-EFFECTIVE ALTERNATIVE TO THE CURRENT FINANCING AND DELIVERY SYSTEM WILL GO FAR TOWARD CONSTRAINING MEDICARE COSTS.

RESEARCH ON THE PROBLEM

THE UNDERPINNING OF ANY RESTRUCTURING SYSTEM IS THE INFORMATION ON WHICH TO BASE DECISIONS. THE BEST INCENTIVES IN THE WORLD CANNOT WORK TO REDUCE UNNECESSARY HYSTERECTOMIES, FOR EXAMPLE, IF WE DO NOT KNOW HOW TO DETERMINE WHEN THEY ARE NECESSARY AND WHEN THEY ARE NOT. IN THIS REGARD, WE ARE CONSIDERING SEVERAL APPROACHES WITHIN THE NEW PRO PROGRAM TO FURTHER REFINE THE IDENTIFICATION OF VARIATIONS IN PHYSICIAN PRACTICE PATTERNS. ONE OF THE ALTERNATIVES BEING CONSIDERED IS THE APPROACH PROPOSED BY DR. WENNBERG.

IN ADDITION, WE HAVE SEVERAL RESEARCH EFFORTS UNDERWAY THAT RELATE TO VARIATIONS IN MEDICAL PRACTICE. WE HAVE A CONTRACT WITH THE RAND CORPORATION TO STUDY 3 OR 4 PROCEDURES WITH LARGE GEOGRAPHIC VARIATIONS AND EXAMINE WHETHER HIGH USE RATES REFLECT OVERUSE OR LOW USE RATES REFLECT UNDERUSE. THE RECORDS OF 100 PHYSICIANS FOR EACH PROCEDURE IN EACH OF 3 AREAS WILL BE STUDIED TO DETERMINE THE INDICATIONS FOR PERFORMING EACH PROCEDURE AND THEN COMPARED WITH INDICATIONS DRAWN UP BY AN EXPERT PANEL OF PHYSICIANS.

IN ANOTHER STUDY WE ARE EXAMINING MORTALITY RATES FOR SEVEN COMMON OPERATIONS ACCORDING TO THE ANNUAL VOLUME OF OPERATIONS PERFORMED AT INDIVIDUAL HOSPITALS. PRELIMINARY RESULTS INDICATE HOSPITALS WITH LOWER MORTALITY RATES HAVE HIGHER SURGICAL RATES. THIS INDICATION THAT SPECIALIZATION LEADS TO HIGHER QUALITY MAY BE AN IMPORTANT FINDING TO KEEP IN MIND AS WE CONTINUE OUR RESTRUCTURING EFFORTS.

FURTHER, THE FORTHCOMING HCFA GRANTS ANNOUNCEMENT HAS A SECTION DEVOTED TO SOLICITING PROJECTS THAT ASSESS THE COSTS AND BENEFITS OF PROCEDURES, TREATMENTS AND SERVICES.

CONCLUSION

IN SUMMARY, THERE HAS BEEN A CLEAR AND CONSISTENT PATTERN OF VARIATION IN MEDICAL PRACTICE THAT CANNOT BE EXPLAINED BY DEMOGRAPHIC OR CASE-MIX FACTORS. IT APPEARS THAT "PRACTICE STYLE" ACCOUNTS FOR LARGE DIFFERENCES IN USE THAT MAY RESULT IN UNNECESSARY OR INAPPROPRIATE CARE.

THROUGH HOSPITAL PROSPECTIVE PAYMENT, PROS, AND HMOS, THE HEALTH CARE FINANCING ADMINISTRATION IS INSTITUTING MAJOR CHANGES IN THE INCENTIVES IN THE HEALTH CARE DELIVERY SYSTEM THAT SHOULD GREATLY DIMINISH THE UNNECESSARY DIFFERENCES.

Dr. DESMARAIS. My name is Henry Desmarais. I am the Director of the Bureau of Eligibility Reimbursement and Coverage in the Health Care Financing Administration, and as you requested, we are here to discuss variations in medical practice as they affect the Medicare and Medicaid Programs, and basically, the two subjects I want to discuss briefly describe the types of research we have supported in the past to identify the reasons for these practice variations and, second, the program initiative that we believe provides the right incentive to reduce that portion of the variability which really isn't well-grounded in the medical needs of the patients.

After all, avoiding unnecessary or inappropriate care certainly will benefit patients in several ways, one of which is that they can avoid the side effects of unnecessary testing and treatment, and in addition, the trust fund certainly would benefit.

Let me say that the existence of variabilities comes as no surprise to us. Before prospective payment was enacted, we were very loudly saying that Medicare hospital admission rates were different from one region to another by as much as 22 percent, and in addition, the average length of stay was varying by as much as 43 percent.

Furthermore, not only are admission rates varying, but also the use of intensive care and ancillary services. These vary in addition.

For example, before prospective payment was enacted, payment for the treatment of a heart attack could vary from $1,500 to as much as $9,000.

Our response to all this has been to restructure the incentives of the current system, and before I describe some of these initiatives, I would like to say very clearly that the Health Care Financing Administration really has no interest or intent to publish a textbook of medicine or to prescribe the regimens of care that physicians must use. Instead, we are trying to change the incentives in the system and improve the knowledge base of that system to lead to the right outcome.

The first initiative, and a very important one, is hospital prospective payment. Dr. Wennberg has focused a great deal on admissions and their implications for the trust fund, but remember it is not just admissions that decide how much money is spent for health care. It is also, once that patient is admitted, what resources are used, and hospital prospective payment certainly will reduce and has reduced unnecessary days, unnecessary procedures and testing, and I think it is a very important contribution to the fight against rising health care costs.

We have evidence that hospitals are already responding and introducing a variety of efficiencies into their systems.

The problem of working with the hospital prospective payment system is peer review organizations. There are 54 of these organizations, and they have entered into contracts with the Health Care Financing Administration that provide utilization and quality objectives dealing with inpatient medical care.

Several of those objectives are certainly relevant to this morning's hearing.

The first one is to reduce admissions for procedures that could be performed safely as an outpatient rather than inpatient care. That has been very much what Dr. Wennberg has stressed this morning—the importance of moving toward outpatient care—and the peer review organizations have that as one of their key objectives.

For example, the Wisconsin Peer Review Organization is focusing on a number of procedures. For example they would like to see certain tests like bronchoscopy and endoscopy moved to the outpatient setting because there is clear evidence in general that it is a safe and effective place for those procedures to be done.

An important part of that reduction in admissions is preadmission review, wherein the peer review organization will consult with the physician who intends to admit a patient and to make sure that indeed that patient ought to be admitted to the hospital.

A second important objective is to reduce inappropriate and unnecessary invasive procedures.

A third objective is to reduce unnecessary admissions for specific diagnoses and, in addition, to reduce admissions in instances where there is evidence that specific practitioners or providers have fostered unnecessary care and unnecessary admissions.

The areas that are given peer review organizational focus on were identified after that organization had reviewed mobile data bases, regional and national data bases, certainly including the Medicare data base. After they did that, they were able to identify a number of areas that required the attention of that organization.

Furthermore, the peer review organization has another important activity, and that is admission pattern monitoring, wherein they will watch for inexplicable increases in admissions in a particular locale and move in to investigate the potential causes for that and whether, indeed, something needs to be done about them.

In leaving the discussion of peer review organizations, I would just like to say we view it very much as an educational process, wherein the physicians employed by the peer review organization—which I might add are local physicians practicing in the same areas where they are reviewing the care—will work with other physicians to move toward appropriate practice levels.

The third initiative that we are very excited about is health maintenance organizations. We have been sponsoring a number of demonstrations throughout the country, and those demonstrations have shown us that they are able to save dollars by reducing their inpatient care, reducing admissions, treating people on an outpatient basis and in a preventive way.

The demonstrations have clearly shown that the organizations can provide all Medicare benefits even though they are paid less than the fee-for-service system that normally is in place.

Final health maintenance organization regulations are expected to be published soon, and we really expect HMO enrollment for Medicare beneficiaries will increase dramatically.

Again, HMO's certainly have a role to play here because they tend to not rely extensively on inpatient care to provide care for their participants.

Let me move now to a brief discussion of our research efforts. Certainly, despite what I said about the peer review organizations, we intend to make further refinements, and, in fact, we are currently considering introducing some of Dr. Wennberg's suggestions in one of the peer review organization areas, and those negotiations are proceeding at this point.

HCFA also has a contract with Rand Corp. They are reviewing three or four high-cost procedures to examine whether high use reflects inappropriate use or whether low use reflects underuse.

What they are doing is they are reviewing the indication for a variety of procedures, examining the records of 100 physicians in high-, medium-, and low-use areas, trying to see whether in a high-use area the reasons—the indications for which the procedure is done are really at the low end of the scale; the least critical or least important indications are ones leading to the use of that particular procedure.

Let me conclude, then, by saying we are certainly aware of the practice variations. We have benefitted a great deal from the counsel of Dr. Wennberg and others.

We have implemented a variety of tools to deal with that variation and in an appropriate fashion, and we certainly continue to support research to learn a great deal more, along with our sister agencies, and you will hear from them later this morning.

Senator PROXMIRE. Thank you very much, Dr. Desmarais.

NATIONAL CENTER FOR HEALTH SERVICES RESEARCH

STATEMENT OF DR. JOHN MARSHALL, DIRECTOR, NATIONAL CENTER FOR HEALTH SERVICES RESEARCH AND HEALTH CARE TECHNOLOGY ASSESSMENT

Senator PROXMIRE. We will now take testimony from Dr. John Marshall, Director of the National Center for Health Services Research and Health Care Technology Assessment.

Dr. MARSHALL. Thank you, Mr. Chairman. It is a pleasure to be here. What I intend to to this morning is really talk about three aspects of the issue. First, I would like to summarize what we do know now about variations in medical practice; second, identify some of what we do know now about factors which affect it; and then highlight the research issues that we are currently trying to address.

Those of us involved in health services research have known both intuitively and empirically for a long time that patient need is not the sole force that drives how resources are used in taking care of the patients. Our research has shown that variation utilization reflects a complex interaction of many clinical, social, financial, environmental, psychological, and societal factors.

We know how these decisions are made, are frequently a result of how physicians are trained. They're the result of certain seeds, as Dr. Wennberg and others have pointed out, that exist in the minds of the physicians with respect to what is the best treatment for any given patient at any particular point in time in the evolution of the illness. We know that they are the result of how the health care delivery system is organized in some cases, and we know that financial incentives in the system will also drive how the decisions are made.

The national center's research support has been partially responsible for the small area of analyses that have been described to you by Dr. Wennberg. But, in addition, we have also supported the development and analysis of data bases that were much larger that look at practice variations in both the hospital and the physician offices.

We have also been interested in the use of medical information systems to provide data bases and the methodology which will be necessary to do further assessments of these kinds of activities.

There is a broad-ranging list of procedures and rates that have been well-documented as having extreme variability. You have seen a few of those this morning in Dr. Wennberg's slides. We know that these correlate with geographic regions of the country, with physician's speciality, whether the predominant percentage of the physicians are trained in foreign medical schools or American medical schools. Individuals who practice in solo practice seem to have a different pattern than those in group practice; hospital size, hospital ownership, incidents of malpractice suits and malpractice awards and the cost of that insurance and the level of patient insurance are all factors which can be shown to correlate with these variations.

We know, again, and have been able to hold up and we're still talking about these things. You have to be able to demonstrate clearly that they are not the result of differences in patient care characteristics or the complexity of their illness, and all of this kind of research has been going on for some time and has made possible the kinds of conclusions that can presently be presented.

To take a look at just a few examples of what we know, most people, I think, are well aware of the rapid increase in the rates for caesarian sections of deliveries and we can show that these are influenced by whether or not the doctor is in solo practice or in group practice. We know foreign medical graduates tend to do more than American-trained in caesarians. We receive many more caesarians in communities with a high ratio of OB–GYN physicians to the fertile age female population. We see it where the patients are well- insured as compared to where patients are not so well insured. So you have all of these kind of factors that impact. And any kind of system that's designed clearly has to not only understand and take into consideration what it is that will really make a difference.

Some things we have clearly documented but we don't understand so well. The researchers at the University of Michigan, for example, have recently found while DRG-106, circulatory system disorders with cauterization and coronary bypass range among the top, or among the highest 10 in the country.

But, in Maryland, they are very low. And we don't know whether that is because we have a cost system that is very effective in the State of Maryland or whether there is a difference in the number of people trained in the procedures, or whether it has to do with the insurance kind of coverage in the Medicare system.

So those things we have looked at and the people are working at that. We know that patients admitted to—elderly patients admitted to long-term care facilities, makes a difference how long they stay and what happens to them if they are investor-owned rather than publicly or privately operated facilities.

Those admitted to the investor-owned hospitals tend to have shorter lengths of stay and are recipients of fewer procedures. So we need to better understand those factors before we can decide how it is that we are going to deal with it.

We understand that a physician's age has an implication of what happens to patients. For example, physician-initiated visits and expenditures are more frequently correlated with younger physicians rather than those who have been in practice for a long time. Whether that is because those that have been in practice for a long time have more certainty about what it is they are doing, have more experience, maturity, and benefit from that, or whether it is because the younger physicians have more uncertainty and are also more concerned about having their practice grow, is something that's hard to tell just from the surface of the looking at the data.

We know that there clearly are important issues that have to do with how the patient feels, the status of the patient, how disabled they are and how disabling their illness is. And we understand some of those relationships, but not as many as we need to.

There is evidence of some rather effective interventions which have made a real difference in terms of health how physicians practice. And Dr. Desmarais made reference to the PRO's. The PRO's are a sort of successor to the PSRO's, but the PSRO's were built on medical research that was done in the early 1970's with so-called EMCRO's—experimental medical care review organizations—and the objective of the EMCRO's was to design perspective criteria of good health care and use that to identify at the county or at the State level people who were practicing outside those boundaries, recognizing that some variations probably are productive and good and you don't want total conformity.

But the question is how you identify the outcome. And all of that is built on empirical research which, as we know has been going on for 10 to 12 years and clearly needs to be continued, as we attempt more sophisticated intervention in those areas. We know that physicians change their practice style and behavior when there are changes in the reimbursement rates.

For example, in 1977, the Medicare carrier in Colorado reduced the payment rate for physicians in Denver and then increased the payment to physicians in rural areas of the State. That was immediately followed by significant increases in the kinds of—certain kinds of behavior manifested by physicians and surgeons in Denver.

For example, researchers who looked at it estimated each a 10-percent reduction in payment rates was followed by a 1.4-percent increase in surgical procedures per patient, a 6.1-percent increase in the complexity of services that were reported to have been delivered, which, of course, allowed for a higher reimbursement rate than the 5.2 percent increase in laboratory testing.

So, when you add all of those together, you see that the behavior was offsetting. It's doubtful probably, if you went back to those physicians, that they would really understand exactly what they had done on a conscious level. But, nevertheless, that is what happened and we saw the trend directly. And understanding issues such as this and understanding what happens when you change one part of the incentive system is very important. And as you contemplate changes. So you make whatever adjustments to correlate to minimize the amount of time it takes people to beat the system.

We have found that if you send counter detail men out behind the drug—drug company detail men—you can reduce the prescription rate for certain kinds of drugs which either are very dangerous or have a potential for being very dangerous, or very expensive, with less clear sound evidence with respect to their cost benefit or with their effectiveness. And that's been demonstrated in a number of studies.

We also have been doing work with computerized interactive systems that provide lab assistance to physicians and to provide them with a sort of logic that if you get this, then this is the question you ask and that is the test you perform. But if you don't get that lab finding, you really shouldn't do that.

We found in several hospitals where this has been operating in the ambulatory department that this has significant implications on the cost savings but, also, not only cost savings, but also for encouraging good practice among the staff.

Finally, there has been support for the development of some larger data base which look over a long period of time in all the patients that have come into a facility with a certain diagnosis. For example, at Duke University, there is a coronary artery disease data bank that has been developed, for about 10 years, with support from a variety of Federal agencies; and people who are working with that data base have cooperation with a large number of physicians and surgeons who treat coronary artery disease in the multicounty area around Duke.

Data from those patients comes into that data base and they have been developing a computer protocol that allows you to look at objective physiological data and make appropriate decisions about the level and intensity of care to which that patient should be assigned.

For example, it's fairly easy to demonstrate that a lot of the patients who get to the primary intensive care unit really don't need to be there, and need to be taken care of in a much less expensive setting. And the outcome would not be appreciably different for us to do that.

PREPARED STATEMENT

Senator PROXMIRE. Thank you very much, Dr. Marshall.

Dr. MARSHALL. Thank you, Mr. Chairman.

Senator PROXMIRE. Before moving on to the next witness, we will include your prepared statement in the record.

[The statement follows:]

STATEMENT OF DR. JOHN MARSHALL

Mr. Chairman, I am John E. Marshall, Director of the National Center for Health Services Research and Health Care Technology Assessment. I would like to briefly summarize some of what we already know about variations in medical practices, identify factors which affect it, and highlight the research issues currently being addressed.

We have long known that patient need is not the sole force driving how resources are used in health care. Health services research has shown that variation in utilization reflects a complex interaction of clinical, social, environmental, economic and psychological factors which characterize the relationship between patient and provider. Studies have consistently demonstrated that differences in medical decision making are often the result of how physicians are trained and of financial incentives in the health care delivery system. Continued empirical analyses of the system are necessary to highlight those medical procedures which could be performed more efficiently or those diseases which could be treated more effectively.

The National Center's research support is partly responsible for the important work on small area data described to you by Dr. Wennberg. In addition, we have also funded the analysis of large data sets which systematically describe medical practice variations in both the hospital and the physician's office. Our support for the development and use of medical information systems has provided both the necessary methodology and data base for these analyses.

HOW PRACTICE VARIES

Studies supported by the National Center have found variations in rates of prostatectomy, tonsillectomy, hysterectomy, caesarian section, coronary bypass grafts, x-rays, and in hospital admissions and length of stay. Among the independent variables which have been shown to correlate with one or more of these are: geographical region, physician specialty, foreign or American medical graduate, solo or group practice, hospital size, hospital ownership, malpractice incidents and insurance costs, and level of patient insurance.

A review of some of significant studies sponsored by the National Center follows:

- Wennberg and his colleagues have concluded that cost-containment programs based on fixed, per-admission hospital prices will also need to ensure effective control of hospitalization rates. (HCFA will expand on this issue in their testimony). Research demonstrates clearly the impact of individual practice styles and professional discretion in determining hospital admissions for different DRGs (Wennberg, Grant No. HS 04932).

- Significant differences exist in overall average length of stay for short-term general, non-Federal hospitals across regions of the United States. Northeastern hospitals tend to have the longest stays and Western hospitals the shortest stays. This pattern of regional differences persists even when adjusting for patient demographic characteristics (age, sex, and race), patient economic status (source of payment), and patient medical characteristics (number of diagnoses, surgical status, discharge status, diagnosis, and severity of illness within diagnosis). Overall regional differences in length of hospital stay appear to be closely associated with hospital size and ownership, but why this is the case is not understood (Hospital Cost and Utilization Project, Division of Intramural Research, National Center).

- National Center staff found that rapidly rising caesarean section rates (from 5.5 percent in 1970 to 16.5 percent of all deliveries in 1980) are associated with physician and hospital characteristics. Physicians are more likely to perform C-sections if they are in solo practice, foreign medical graduates (FMGs), in a community with a high ratio of OB-GYNs to the fertile age female population, in States with high malpractice rates and awards, and where patients are well insured (Hospital Cost and Utilization Project, Division of Intramural Research, National Center).

- University of Michigan researchers found that while DRG 106 (circulatory system disorder with coronary bypass and catheterization) ranked first among high-cost discharges nationwide (CPHA data), it did not place in the top ten in Maryland. This finding cannot be explained by the reimbursement rate since the mean charges for DRG 106 are similar for Maryland and the nationwide sample. The structure for hospital reimbursement in Maryland (per case or per service), or the supply of cardiac catheterization facilities and personnel in the State, may explain the observed difference, but we can not be certain (Berki, Contract No. 233-81-3032).

- Our own long term care research has found that elderly patients who are admitted to investor-owned hospitals have shorter average lengths of stay, receive fewer procedures and are more often discharged to other health facilities than patients admitted to voluntary or government hospitals (Hospital Cost and Utilization Project, Division of Intramural Research, National Center).

- Analysis of the National Center's data base on health care expenditures shows that physician-initiated visits and expenditures are correlated with patient characteristics, insurance and reimbursement characteristics, the supply of doctors per capita, and physician characteristics. The less the individual pays for medical care directly, the more likely is the physician to initiate visits and related expenditures. The physician-to-population ratio is significant in explaining variations in the likelihood of physician-initiated ambulatory visits, the number of such visits, and expenditures for ambulatory care, but the impact is relatively small. Much of the variation in physician-initiated demand can be traced to patient characteristics that reflect medical need, such as disability days, perceived health status, and the presence of chronic conditions. But characteristics of physicians are also important. Increases in a doctor's age are associated with a decrease in the probability that the physician initiated the visit. These findings are not inconsistent with Wennberg's findings showing substantial variations in the number of procedures and operations performed for what are similar populations within very small areas. Although the patient's medical characteristics and the share of the bill paid out-of-pocket by the patient are consistently more important in explaining variations in the amount of and expenditures for health services initiated by physicians than is the physician-population ratio, much of the variation in that care remains unexplained (National Health Care Expenditures Study, Division of Intramural Research, National Center).

INTERVENTIONS TO REDUCE VARIATION

Research sponsored by the National Center has demonstrated that educational and economic incentives can help to reduce practice variation. Whether the reduced variation is an improvement in the quality of care may vary in each instance. The need for careful monitoring of the effect on quality of care of efforts to achieve greater economy in the practice of medicine is evidenced in the current development of Peer Review Organizations(PROs). Indeed the model for PROs is based on the Experimental Medical Care Review Organizations (EMCROs), developed and supported by the National Center in the early 1970's The objective of the EMCROs was to design prospective criteria of good health care to be used to identify and correct variations in practice considered outside of the norm.

Several studies funded by the National Center suggest it is possible to modify the mode and style of practice in ways that will improve the efficiency and quality of medical care. For example:

- o A new approach to home health care for the elderly who are homebound and chronically ill has been shown to provide effective, less costly care to the terminally ill. In a randomized, controlled trial, a team consisting of a physician, a geriatric nurse practitioner, and a social worker provided continuous, on-call medical care to patients in their home. Overall costs were about a third less than total costs for patients receiving traditional at-home care, owing to decreased hospitalizations. Satisfaction with care was significantly greater among team care patients and family members (Groth-Junker, Grant No. HS 03030).

- o Physicians may respond to reduced reimbursement rates by increasing the number and complexity of their services. In 1977, the Medicare carrier in Colorado lowered Medicare payments to doctors in the Denver area, and created "windfall" increases in payments for physicians in other parts of the State. A study of this natural experiment showed that Colorado physicians changed their practice style as a result of these lower Medicare payment rates. Each 10 percent reduction in payment rates was followed by 1.4 percent more surgical procedures per patient, a 6.1 percent increase in the complexity of services (allowing a higher reimbursement rate), and a 5.2 percent increase in lab tests. These findings suggest the importance of developing payment systems that offer strong incentives to physicians to provide lower-cost forms of treatment (Rice, Grant No. HS 04729).

- The high mortality rates in some hospitals for cardiac bypass surgery, angiography and cardiac catheterization, total hip replacement and respiratory distress syndrome underscore the potential improvement if more patients could be channeled to high volume institutions. These are difficult conditions and operations, often requiring specialized equipment and highly trained personnel. Understanding this type of variation has important implications for the quality of care (Flood, Contract No. 230-75-0173 and Luft, Grant No. HS 04329).

Practice behavior can also be influenced by education and by the use of information systems. For example:

- Drug education strategies can be very effective both in reducing Medicaid costs and in improving the quality of care. Prescribing behavior was substantially modified by "counter-detail men" for three types of drugs: potentially dangerous analgesics (Propoxyphene), ineffective vasodilators (Papaverine), and expensive antibiotics (Cephalexine). Comparable results were also achieved through physician counseling and education in a study of six classes of drugs, including tetracycline prescribed for children under eight and the use of antipsychotic drugs and Valium in nursing homes (Avorn, Grant No. HS 04933 and Schaffner, Grant No. HS 03899).

- Information about the status of each patient's immunizations, tests or other care can help physicians to improve patient care significantly. Indiana University researchers have demonstrated that computerized reminders result in greater compliance with accepted treatment regimens and more frequent use of preventive care measures (McDonald, Grant No. HS 02485).

- The Coronary Artery Disease Databank at Duke University now predicts diagnostic and prognostic results for individual patients better than expert cardiologists. Duke staff are currently using the databank to evaluate various non-invasive procedures as replacements for invasive testing, and are developing and refining statistical methods for determining the information gain or marginal benefit of various medical technologies (Stead, Grant No. HS 03834 and Pryor, Grant No. HS 04873).

- The American Rheumatism Association Medical Information System (ARAMIS) was developed at Stanford University. This large data base has helped to define when the use of renal biopsy is appropriate in the diagnosis of systemic lupus erythematosus and scleroderma. Defining the benefit of specific diagnostic and therapeutic procedures helps to reduce the uncertainty that underlies variations in medical practice (Fries, Grant No. HS 03802).

RESEARCH AGENDA

Wennberg and others have demonstrated that uncertainty about the effectiveness of medical procedures is associated with greater variation in the use of resources. These findings support the need for further research to establish the effectiveness of particular medical services, but they also indicate that any attempts to control variation through regulatory, reimbursement, or similar intrusive approaches are premature. We know that simply informing practitioners of the differences in their practice styles reduces these variations to some extent; these variations probably are caused simply by differences in customs or practice styles, without clear medical justifications. Differences which persist after interventions of this nature, however, merit far more careful scrutiny before efforts to control them are applied, because they are likely to arise from factors such as unmeasured variations in patient characteristics, provider skills, value systems, financing arrangements, or organizational configurations.

The following are examples of the kinds of research that the National Center intends to pursue to obtain a better understanding of variations in the use of medical resources:

- Expanded quality assessment efforts such as studies linking the process of care with outcomes and health status, as well as better ways to measure the effectiveness of the cognitive elements of medical care such as patient-provider communication, and to explore the area of patient and societal preferences or utilities.

- Sources of data to examine the course of episodes of illnesses over time, including measures of health outcomes which can be obtained unobtrusively.

- Population-based data for comparative studies of variations in use, particularly with regard to disadvantaged groups, and data which can be used to observe changes in variations over time.

- Research designs such as cohort or case-control studies which can be carried out in addition to randomized controlled clinical trials in promoting consensus about treatment effectiveness.

This concludes my statement. I would be pleased to respond to your questions.

National Institutes of Health

STATEMENT OF ROBERT GORDON, M.D., SPECIAL ASSISTANT TO THE DIRECTOR FOR RESEARCH RELATED TO DISEASE PREVENTION (ACTING), NATIONAL INSTITUTES OF HEALTH

ACCOMPANIED BY:

EUGENE PASSAMANI, M.D., NATIONAL HEART, LUNG, AND BLOOD INSTITUTE

ROBERT WITTERS, M.D., NATIONAL HEART, LUNG, AND BLOOD INSTITUTE

PREPARED STATEMENT

Senator PROXMIRE. Our final witness on this panel will be Dr. Robert Gordon, who is special assistant to the Director for Research Related to Disease Prevention at the National Institutes of Health.

Your prepared statement will be inserted in the record at this point and then you may proceed.

[The statement follows:]

STATEMENT OF DR. ROBERT GORDON

I appreciate the opportunity to testify at this hearing today. I am Dr. Robert Gordon, Special Assistant to the Director for Research Related to Disease Prevention, National Institutes of Health, and Chairman of the NIH Clinical Trials Committee. Accompanying me today are Dr. Eugene R. Passamani, Associate Director for Cardiology, Division of Heart and Vascular Diseases, National Heart, Lung, and Blood Institute (NHLBI), and Dr. Robert E. Wittes, Associate Director, Cancer Therapy Evaluation Program, Division of Cancer Treatment, National Cancer Institute (NCI).

I should like to outline the overall mission of NIH and to address the Subcommittee's stated interest in NIH clinical trials. The mission of the National Institutes of Health (NIH) is to improve the health of the people of the United States by increasing our understanding of the processes underlying human health and by acquiring new knowledge to help prevent, detect, diagnose, and treat disease. NIH accomplishes this mission by sponsoring and conducting research and related activities, emphasizing fundamental research aimed at broadening the knowledge base of biomedical science. NIH works toward that mission by:

- supporting research in universities, medical schools, hospitals, and research institutions in this country and abroad;
- conducting research in its own laboratories and clinics;
- supporting training for promising young investigators;
- helping to develop and maintain research resources;
- developing and recommending policies related to the conduct and support of biomedical research;
- supporting a number of clinical trials;

- identifying research findings that can be applied to the care of patients; and

- promoting effective ways to communicate biomedical information to scientists, health practitioners, and the public.

The acquisition and dissemination of new knowledge and understanding of health and disease have contributed to the improvement of practice in both medicine and public health. Advances in knowledge at the basic research level result in hypotheses about potentially effective approaches to the prevention, management, and control of disease in man. Basic research is the indispensable foundation for all targeted clinical research, and ultimately for improved health care. The products of research flow from basic research to clinical research to practical health care.

Clinical trials have become an important, indeed, critical activity in the biomedical research spectrum. In assigning priorities to the many important competing opportunities for clinical trials, the most important NIH goal is the goal of all medicine: to reduce morbidity and mortality--to minimize pain, disability, and premature death. Innovative methods of treating or preventing disease must be validated by scientific observations of their effect on human beings as the final step before being introduced generally into the health care system. Thus, NIH clinical trials attempt to maximize the beneficial effect on the health of the American people. Another consideration is that new medical interventions should enter the health care system accompanied by adequate understanding of their proper application.

The phenomenon of small-area variability in the utilization of medical services, with which the Subcommittee is concerned, is indicative of the incompleteness of the knowledge base underlying medical practice. The profession is in need of a larger, scientifically valid body of well-organized and accessible information that can be utilized in daily clinical decision-making. Clinical trials contribute in an important way to answering this need.

At their best, clinical trials serve as a scientific link between basic and clinical research, and demonstration, prevention, education and control activities. In some cases clinical trials produce treatment management information that may change or in some ways "standardize" a particular approach. It is also true, however, that clinical trials may produce information that cannot be easily interpreted or generalized to all patients with a particular disease. Some clinical trials will result in more treatment options, not fewer, and provide more choices to physicians and their patients. Let me take a moment to cite a few of the examples of clinical trials conducted by some of the Institutes of the NIH, which highlight the issues we are discussing today.

The National Cancer Institute (NCI) supports a large clinical trials program which seeks to define improved treatment for the patient with cancer. New treatment regimens may include surgery, radiotherapy, chemotherapy, biologic response modifiers (immunotherapy), or advances in supportive care such as antiemetics or improved nutrition. These modalities may be tested singly or, as often happens, in combination with each other. As a result of these research efforts, the past 10-20 years have seen outstanding successes. Treatment of many childhood tumors, acute leukemia, the lymphomas, and testicular cancer, for example, has now resulted in cures for a significant percentage of patients. These treatment advances have occurred in part as a result of clinical trials of new therapies.

One major change in the primary treatment of breast cancer is clearly linked to clinical trial findings. For many years in the United States the standard initial approach was the radical mastectomy (removal of the entire breast, lymph nodes, and underlying muscle). After World War II, new appreciation of the biology of this disease suggested that for certain patient groups more conservative approaches involving less radical surgery, often in combination with radiotherapy, might result in cure rates similar to those found following the radical mastectomy. Prospective clinical trials, begun in 1971, showed that total mastectomy (removal of the breast but not the underlying muscle group), with or without radiotherapy, resulted in survival rates equivalent to those with the radical mastectomy.

By 1979 enough data were available to warrant an examination of the benefits of the radical mastectomy. Therefore, on June 5, 1979, the NCI sponsored a consensus development conference entitled "Treatment of Primary Breast Cancer: Management of Local Disease." At this conference, data on approaches to local treatment of breast cancer were examined critically. Subsequently, treatment practices in this country changed, reflecting a move toward less radical surgery.

In 1981, the Commission on Cancer of the American College of Surgeons conducted a survey of breast-cancer treatment patterns in the United States using data from tumor registries maintained by hospitals with Commission-approved cancer programs. The results of this survey show a continued trend toward conservative surgical management of the disease. The use of radical mastectomies has declined progressively, from 46.8 percent in 1972 to 21 percent in 1977 and to 4.5 percent in 1981. These figures indicate the end of more than a half-century of standardized treatment by radical mastectomy. It seems reasonable to conclude that patterns of practice were influenced by the published results of clinical trials and observational studies and the consensus development conference process.

The National Heart, Lung, and Blood Institute (NHLBI) has an extensive program of clinical trials dealing with critical issues in the prevention and treatment of heart, lung, and blood diseases. Two recently completed clinical trials have resulted in substantial savings in the mortality and economic costs of cardiovascular disease.

The Coronary Artery Surgery Study (CASS) compared the results of medical treatment with those of bypass surgery among patients for whom there was no clear treatment of choice. From August 1975 to May 1979, 780 patients with stable ischemic heart disease were randomly assigned to surgical or nonsurgical treatment and followed through April 15, 1983. The initial trial results were released in October 1983 at the end of five years of followup. They showed no statistically significant differences in average mortality between medically and surgically assigned patients. However, the data did suggest a surgical advantage among patients with triple-vessel disease and ejection fractions below 0.50. Further followup through July 1984 has demonstrated a statistically significant difference in favor of prompt surgical therapy in this small subgroup, approximately 10 percent of those randomized. The survival curves are indistinguishable in the remaining 90 percent of randomized patients. Thus, the seven-year results continue to confirm the major conclusions in the initial publication; namely, the equivalent survival rates among 90 percent of the medically and surgically assigned study participants. Patients similar to those who participated in CASS, patients with mild-to-moderate angina and angina-free survivors of myocardial infarction with surgically treatable coronary artery disease who do not have both triple-vessel disease and impaired left ventricular function, can safely defer bypass surgery until worsening symptoms require surgical palliation.

The Hypertension Detection and Follow-up Program (HDFP) was initiated in 1971 to determine the effectiveness of systematic, sustained, anti-hypertensive therapy in reducing morbidity and mortality in a wide spectrum of hypertensive patients. Hypertension is one of the three major risk factors for coronary heart disease and the major predisposing factor for stroke. According to a 1980 estimate, approximately 23 percent of the United States population is hypertensive. As a contributor to mortality, hypertension accounts for an estimated 250,000 deaths each year. The 10,940 study participants were randomized to either a referred group, who were referred to private physicians and other community sources for care, or a stepped care group, who received from the HDFP clinics a structured, step-wise pattern of prescribed antihypertensive medications. Trial results were released at the end of 1979. The five-year mortality from all causes was 17 percent lower in the stepped care group. The stepped care group also experienced 45 percent fewer deaths from stroke and 26 percent fewer deaths from heart attack. The HDFP clearly demonstrated the benefits associated with careful detection, treatment, and followup of hypertension. The NHLBI has used the National High Blood Pressure Education Program to disseminate the results of the trial. From 1972 to 1978 there was a dramatic decline in death rates from cardiovascular disease, particularly in the case of stroke (over 37 percent).

NIH recognizes that new knowledge and technological capability flow from the centers of biomedical research to the health care system, and it sponsors programs to accelerate this information dissemination. Within the NIH, the Office of Medical Applications of Research (OMAR) serves as the focal point for this activity. Through consensus development conferences sponsored by OMAR in conjunction with the Institutes, research findings are examined by panels of prominent individuals for their clinical implications. This activity results in the preparation of statements that summarize and interpret clinical research results. Such statements are important guides to practitioners.

The Consensus Development Program began in 1977 and, to date, 45 consensus development conferences have been held. These conferences have examined such topics as screening for breast cancer, endoscopy of the upper gastrointestinal tract, and liver transplantation. With your permission, I should like to submit for the record a list of completed and upcoming consensus development conferences.

Another activity coordinated by OMAR is "state-of-the-science" review of technologies under consideration for eligibility for Medicare coverage. Within the Department of Health and Human Services, the Health Care Financing Administration has responsibility for making Medicare coverage determinations and routinely requests the advice of the Public Health Service in this regard. The National Center for Health Services Research and Health Care Technology Assessment, which coordinates the development of responses to HCFA, in turn regularly solicits scientific information from the National Institutes of Health. Upon receipt of such a request, OMAR will engage the assistance of the most appropriate scientists within the NIH community to review that therapeutic modality. In these cases, NIH provides a thorough review of all existing scientific data bearing on the subject technology. While the NIH reviews are performed for HCFA, they are often used as a basis for decision-making by others in the health community. I should like to submit for the record a list of topics the NIH has reviewed in the past two years.

NIH also contributes to improving medical treatment by utilizing the principles and techniques of observational epidemiology in the clinical setting. Clinical data banks have been established in a number of centers to evaluate interventions by systematic followup of outcomes as they actually occur.

NIH scientists and grantees also contribute to the dissemination of clinically relevant science by preparing and publishing review articles in the technical literature. This activity, which is frequently overlooked in the consideration of formal programs of technology review, is more important than many realize.

Even with a considerable body of scientifically validated knowledge, however, heterogeneity of medical practice will still occur, attributable to individual differences in the value judgments that must inevitably enter into decision-making or the care of each patient, and to local variations in the quantity and quality of medical resources and manpower.

The NIH is dedicated to improving individual and public health through the generation of new biomedical knowledge and the identification of effective therapeutic and preventive approaches to disease. In addition to these research activities, the NIH synthesizes and disseminates clinically relevant information through a variety of mechanisms. We believe that the programs of NIH complement those of the Health Care Financing Administration, the National Center for Health Services Research and Health Care Technology Assessment, and other components of the Department and bear positively on many important health questions facing this country today.

Thank you for this opportunity to testify regarding NIH activities. We should be pleased to answer any questions the Subcommittee may have.

NIH Consensus Development Conferences

Office of Medical Applications of Research (OMAR)

CO-SPONSORS	TITLE	DATES HELD
NCI	Breast Cancer Screening	Sept. 14-16, 1977
NCI	Educational Needs of Physicians and Public Regarding Asbestos Exposure	May 22, 1978
NIDR	Dental Implants: Benefit and Risk	June 13-14, 1978
NCI	Mass Screening for Colorectal Cancer	June 26-28, 1978
NIA	Treatable Brain Diseases in the Elderly	July 10-11, 1978
NINCDS	Indications for Tonsillectomy and Adenoidectomy: Phase I	July 20, 1978
NIAID	Availability of Insect Sting Kits to Non-Physicians	Sept. 14, 1978
NCI	Mass Screening for Lung Cancer	Sept. 18-20, 1978
NIGMS	Supportive Therapy in Burn Care	Nov. 10-11, 1978
NIAMDD	Surgical Treatment of Morbid Obesity	Dec. 4-5, 1978
Interagency Cmte. on New Therapies for Pain and Discomfort (Organizer)	Pain, Discomfort, and Humanitarian Care	Feb. 16, 1979
NICHD	Antenatal Diagnosis	March 5-7, 1979
NHLBI	Transfusion Therapy in Pregnant Sickle Cell Disease Patients	April 23-24, 1979
NHLBI	Improving Clinical and Consumer Use of Blood Pressure Measuring Devices	April 26-27, 1979
NCI	The Treatment of Primary Breast Cancer: Management of Local Disease	June 5, 1979
NCI	Steroid Receptors in Breast Cancer	June 27-29, 1979
NEI	Intraocular Lens Implantation	Sept. 10-11, 1979
NIA	Estrogen Use and Postmenopausal Women	Sept. 13-14, 1979
NIAID	Amantadine: Does It Have a Role in the Prevention and Treatment of Influenza?	Oct. 15-16, 1979
DRS	The Use of Microprocessor-Based "Intelligent" Machines in Patient Care	Oct. 17-19, 1979
NIDR	Removal of Third Molars	Nov. 28-30, 1979
NHLBI	Thrombolytic Therapy in Thrombosis	April 10-12, 1980
NINCDS	Febrile Seizures	May 19-21, 1980
NCI	Adjuvant Chemotherapy of Breast Cancer	July 14-16, 1980

CO-SPONSORS	TITLE	DATES HELD
NCI, NIA, NICHD	Cervical Cancer Screening: The Pap Smear	July 23-25, 1980
NIAMDD	Endoscopy in Upper GI Bleeding	Aug. 20-22, 1980
NICHD	Cesarean Childbirth	Sept. 22-24, 1980
NCI	CEA As a Cancer Marker	Sept. 29- Oct. 1, 1980
NHLBI	Coronary Artery Bypass Surgery: Scientific and Clinical Aspects	Dec. 3-5, 1980
NINCDS, NIAID, NIAMDD, NICHD, NIEHS, DRR	The Diagnosis and Treatment of Reye's Syndrome	March 2-4, 1981
NINCDS, NCI	Computed Tomographic Scanning of the Brain	Nov. 4-6, 1981
NIAID	Defined Diets and Childhood Hyperactivity	Jan. 13-15, 1982
NIADDK	Total Hip Joint Replacement	March 1-3, 1982
DRS	Clinical Applications of Biomaterials	Nov. 1-3, 1982
CC	Critical Care Medicine	March 7-9, 1983
NIADDK	Liver Transplantation	June 20-23, 1983
NHLBI	Treatment of Hypertriglyceridemia	Sept. 27-29, 1983
NCI	Precursors to Malignant Melanoma	Oct. 24-26, 1983
NIMH	Drugs and Insomnia: The Use of Medications to Promote Sleep	Nov. 15-17, 1983
NIDR	Dental Sealants in the Prevention of Tooth Decay	Dec. 5-7, 1983
DRR, FDA	Diagnostic Ultrasound Imaging in Pregnancy	Feb. 6-8, 1984
K	Analgesic-Associated Kidney Disease	Feb. 27-29, 1984
DK	Osteoporosis	April 2-4, 1984
H	Mood Disorders: Pharmacologic Prevention of Recurrences	April 24-26, 1984
NHLBI	Fresh Frozen Plasma: Indications and Risks	Sept. 24-26, 1984
NCI	Limb-Sparing Treatment of Adult Soft-Tissue and Osteogenic Sarcomas	Dec. 3-5, 1984
NHLBI	Lowering Blood Cholesterol to Prevent Heart Disease	Dec. 10-12, 1984
NIAID	Travelers' Diarrhea	Jan. 28-30, 1985
NIADDK, NHLBI	Health Implications of Obesity	Feb. 11-13, 1985
NIDR	Anesthesia and Sedation in the Dental Office	April 22-24, 1985
NIMH	Electroconvulsive Therapy in Psychiatry	June 10-12, 1985
NCI	Adjuvant Chemotherapy for Breast Cancer	Sept. 1985

Medicare Coverage Issues Assigned by OMAR
in Fiscal Years 1983 and 1984, by BID Assignment

	NIA	NIAID	NIADDK	NCI	NICHD	CC	NEI	NIDR	NHLBI	NINCDS
Spinal reservoir catheter			x							x
Administration of catheter irrigation to patients with indwelling catheters	x	x	x	x		x				
Electrocoagulation for the treatment of gastrointestinal hemorrhage			x							
Plasma perfusion of charcoal filters for treatment of pruritis of cholestatic liver disease			x							
Diathermy as a physical therapy treatment modality			x	x		x				
Electrical neuromuscular stimulation--disuse atrophy and Bell's palsy			x			x				x
Blood pressure monitoring, fully automated									x	
Cardiointegraph									x	
Plasmapheresis in the treatment of chronic relapsing polyneuropathy		x								x
Hyperthermic chemotherapeutic limb perfusion				x						
Implantable chemotherapy infusion pump				x						
Portable/wearable artificial kidney system			x							
Dual-photon absorptiometry			x							
Intraoperative ventricular mapping									x	
Intravenous administration of antibiotics in outpatient settings		x	x						x	
Morphine infusion for the management of pain of malignant origin				x						
Ambulatory electroencephalographic monitoring										x
Coverage of outpatient cardiac catheterization									x	
Transillumination light scanning (diaphanography) for use in the detection of cancer and other diseases of the breast				x						
Streptokinase infusion for acute myocardial infarction (thrombolytic therapy)									x	
Displacement cardiography									x	
Negative pressure respirators						x			x	x

Medicare Coverage Issues (Continued)

	NIA	NIAID	NIADDK	NCI	NICHD	CC	NEI	NIDR	NHLBI	NINCDS
Hyperbaric oxygen therapy for:										
Acute cerebral edema										x
Chronic peripheral vascular and acute arterial diseases									x	
Ischemia									x	
Crush injuries										x
Actinomycosis		x								
Blood pack and platelet irradiation				x		x			x	
Injection sclerotherapy for management of bleeding esophageal varices			x						x	
Biofeedback therapy										x
Transcutaneous electrical nerve stimulation										x
Transplantation of the pancreas			x							
Hyperbaric oxygen treatment for crush injuries and acute traumatic peripheral ischemia									x	x
Lactose breath hydrogen test for the diagnosis of lactose malabsorption			x		x					
Lactulose breath hydrogen test for small bowel bacterial overgrowth and small bowel transit time			x							
Noninvasive method of monitoring cardiac output by Doppler ultrasound									x	
External counterpulsation (cardiac assist device)									x	
Acute stage rejection of renal transplants			x							
Apheresis or thoracic duct drainage for kidney transplant			x							
Carbon dioxide lasers in head and neck surgery				x				x	x	x
Apheresis in scleroderma and poliomyositis			x						x	
Neodymium YAG (Nd-YAG) laser for ophthalmic procedures							x			
Percutaneous and noninvasive lithotripsy by ultrasound and other modalities in the treatment of kidney stones			x							
$^{13}CO_2$ breath test for diagnosing bile acid malabsorption			x							
$^{13}CO_2$ breath test for diagnosing fat malabsorption			x							
Thermography for indicators other than breast lesions			x	x					x	x

Medicare Coverage Issues (Continued)

	NIA	NIAID	NIADDK	NCI	NICHD	CC	NEI	NIDR	NHLBI	NINCDS
Assessments of allogeneic bone marrow transplantation for indications other than aplastic anemia or leukemia and autologous bone marrow transplantation				x						
Neuromuscular electrical stimulation in the treatment of disuse atrophy in the absence of nervous system involvement										x
Laser photocoagulation for exudative conditions not currently covered							x			
Hyperbaric oxygen in treatment of severed limbs										x
Intraoperative ventricular mapping									x	
Percutaneous transluminal angioplasty									x	x
Diagnostic endocardial stimulation (pacing)									x	
Nuclear magnetic resonance imaging			x	x		x				x
Apheresis used in preparation for kidney transplant			x							
Hyperbaric oxygen for treatment of cerebral edema										x
Chemonucleolysis in people over 65	x									
Hyperbaric oxygen for treatment of chronic peripheral vascular insufficiency									x	
Streptokinase infusion for acute myocardial infarction									x	
External open-loop/pump: Subcutaneous Infusion of Insulin in Diabetics			x							
Nd:YAG laser for posterior capsulotomies							x			
Debridement and other treatment of mycotic nails	x									
Laser Trabeculoplasty (LTP) for open angle glaucoma							x			
Noninvasive scanning for carotid artery disease									x	x
Stereotactic Cingulotomy										x
Bone mineral density studies			x							

Dr. GORDON. Thank you, Mr. Chairman.

I appreciate the opportunity to testify today.

With me today are Dr. Eugene Passamani and Dr. Robert Witters, from the National Heart, Lung, and Blood Institute. They are the leaders of the clinical trial programs in the two institutes that have the largest investment in this area.

I should like to outline the overall mission of NIH and to address the subcommittee's stated interest in NIH clinical trials.

The mission of the National Institutes of Health is to improve the health of the people of the United States by increasing our understanding of the process underlying human health and by acquiring new knowledge to help prevent, detect, diagnose, and treat disease.

NIH accomplishes this mission by sponsoring and conducting research and related activities, emphasizing fundamental research aimed at broadening the knowledge base of biomedical science.

These support research in universities, medical schools, hospitals and research institutions in this country and abroad. We conduct research in our own laboratories and clinics. We support the training of promising young investigators.

We help develop and maintain research resources. We develop and recommend policies related to the conduct and support of biomedical research.

We support a large number of clinical trials. We also attempt to transfer the resulting information into practice by identifying research findings which can be applied to the care of patients and by promoting effective ways to communicate biomedical information to the profession and the public.

Clinical trials have become an important, indeed critical activity in the biomedical research spectrum. In assigning priorities to the many important competing opportunities for clinical trials, the most important goal of NIH is the goal of all medicine: To reduce morbidity and mortality; to minimize pain, disability, and premature death.

Innovative methods of treating or preventing disease must be validated by scientific observations of their effect on human beings as the final step before being introduced generally into the health care system. Thus, NIH clinical trials attempt to maximize the beneficial effect on the health of the American people.

Another consideration is that new medical intervention should enter the health care system accompanied by adequate understanding of their proper application. The phenomenon of small area variability in the utilization of medical services, with which the committee is concerned, is indicative of the incompleteness of the knowledge base underlying medical practice.

Clinical trials can serve as a scientific link between basic and clinical research and for practical application of health care in the field.

In some cases, clinical trials produce treatment management information that may change or in some ways standardize a particular approach. It is also true, however, that clinical trials may produce information that cannot be easily interpreted or generalized to all patients with a particular disease.

Since I drafted this testimony, a very excellent article has appeared in the current issue of the journal of the American Medical Association which I would commend to you and your staff. It is by two Canadians, and unfortunately, we cannot claim credit for sponsoring it, but I think it states in a very excellent way where the limitations of clinical trials are in answering some very general questions of the type addressed.

Clinical trials focus best on specific, defined questions, specific diseases, and specific treatments. Some trials will result in more treatment options, not fewer, and provide more choices to physicians and their patients.

Let me take a moment to cite a few of the examples of clinical trials conducted by the institutes of the NIH which highlight the issues we are discussing today.

One major change in the primary treatment of breast cancer is clearly linked to clinical trial findings. For many years in this country and, indeed, the world, the standard initial approach was the radical mastectomy; that is, the removal of the entire breast, lymph nodes, and the chest muscle underlying the breast.

This procedure was introduced almost 100 years ago, and the basis for its introduction was the theory, as it stood at the time, of the nature and growth of cancer, and it depended in large part on the prestige of Dr. Halstadt, the innovator. It was introduced on the basis of what we would call very, very limited data.

After World War II, a new appreciation of the biology of this disease suggested more conservative approaches, often in combination with radiotherapy, might be equally beneficial.

Prospective clinical trials, begun in 1971, showed that total mastectomy; that is, removal of the breast but not the underlying chest muscle, with or without radiotherapy, resulted in survival rates equivalent to those with the radical mastectomy.

By 1979, enough data were available to warrant an examination of the benefits of the radical mastectomy. In 1979, the NCI sponsored a consensus development conference entitled "Treatment of Primary Breast Cancer: Management of Local Disease." Subsequently, treatment practice in this country changed, reflecting a move toward less radical surgery.

In 1981, the commission on cancer of the American College of Surgeons conducted a survey of treatment patterns in the United States. The results of this survey show a continued trend toward conservative surgical management of the disease.

The use of radical mastectomies has declined progressively from 47 percent in 1972 to 21 percent in 1977 to below 5 percent in 1981. These figures indicate the end of more than a half century of standardized treatment of totally inappropriate therapy.

The National Heart, Lung, and Blood Institute——

Senator PROXMIRE. Those are startling figures, and I think very few—maybe many people know that. It is new to me. That is an astonishing decline, from 47 percent to less than 5 percent; in other words, one-tenth as many radical mastectomies are being performed?

Dr. GORDON. Yes, sir; and that reduction has implications not only for cost, because these are more conservative treatments, though they still have to be done in the hospital, and usually result in a shorter stay, and enormous differences for not only cosmetic but functional results.

After a radical mastectomy, the arm on that side is frequently largely or totally disabled. The more conservative surgery leaves a functional arm, and that has implications for quality of life and further follow-up care costs.

Senator PROXMIRE. I take it the driving force here was not the cost, which it should not be, but the ultimate result to health?

Dr. GORDON. The driving force was an equally good or possible better result with less pain and suffering and mutilation in the course of treatment.

The coronary artery surgery study, known by the acronym CASS, compare the results of medical treatment with those of bypass surgery among patients for whom there was no clear treatment of choice. The initial trial results were released in October 1983 at the end of 5 years of followup.

They showed no statistically significant differences in average mortality between medically and surgically assigned patients. However, the data did suggest a surgical advantage among patients with specific types of heart disease—triple vessel disease and ejection fractions below five-tenths of 1 percent.

Further followup through July 1984 has demonstrated a significant difference in favor of prompt surgical therapy in this small subgroup, approximately 10 percent of those, randomized. The survival curves are indistinguishable in the remaining 90 percent of randomized patients.

Thus, the 7-year results continue to confirm the major conclusions in the initial publication; namely, that with the exception of the one small subgroup, many patients can safely defer bypass surgery until worsening symptoms require surgical palliation.

The hypertension detection and follow-up program was initiated in 1971 to determine the effectiveness of systematic sustained antihypertensive therapy in reducing morbidity and mortality in a wide spectrum of hypertensive patients.

Hypertension is one of the three major risk factors for coronary heart disease and the major predisposing factor for stroke. As a contributor to mortality, hypertension accounts for an estimated quarter million deaths each year.

The trial results in this study were released at the end of 1979. The 5-year mortality from all causes was 70 percent lower in the investigational treatment group. This group also experienced 45 percent fewer deaths from stroke and 26 percent fewer deaths from heart attack.

This clearly demonstrated the benefits associated with careful detection, treatment, and followup.

The Institute has used the National High Blood Pressure Education Program to disseminate the results of the trial. During the 1970's, there has been a dramatic decline in death rates from cardiovascular disease, particularly in the case of stroke in the American population as a whole, and this, by the way, is by contrast to simultaneous observation of other developed countries. This trend continues.

NIH recognizes that new knowledge and technological capability flow from the centers of biomedical research to the health care system, and it sponsors programs to accelerate this information dissemination.

The Consensus Development Program began in 1977, and to date 45 consensus development conferences have been held. These conferences have examined such topics as screening for breast cancer, endoscopy of the upper gastrointestinal tract, and liver transplantation.

With your permission, I should like to submit for the record a list of completed and upcoming consensus development conferences.

NIH also contributes to improving medical treatment by utilizing the principles and techniques of observational epidemiology in the clinical setting. Clinical data banks have been established in a number of centers, and many of the ones Dr. Marshall referred to are also sponsored by the NIH, these to evaluate interventions by systematic followup of outcomes as they actually occur.

Even with a considerable body of scientifically validated knowledge, however, heterogeneity of medical practice will still occur, attributable to individual differences in the value judgments that must inevitably enter into decisionmaking for the care of each patient and to local variations in the quality and quantity of medical resources and manpower.

The case of surgical treatment of benign prostatic hypertrophy, which has—there is an excellent example in the work that was presented to you by Dr. Wennberg—also serves to illustrate another type of choice that must be made.

Benign prostatic hypertrophy is clearly caused by abnormal secretion/metabolism response to endogenic hormones among older men. There is a current explosion of knowledge in endocrinology—the biochemistry of hormones, receptors, the cellular growth factors, all stemming from the introduction of new molecular biology techniques into medical research.

This explosion of knowledge we feel justifies cautious optimism and the hope that a medical approach to benign prostatic hypertrophy may be available sometime within the next decade.

So this timing will be comparable to the expected duration of a randomized clinical trial aimed at refining the indication for surgical prostatectomy.

The National Institute of Arthritis, Diabetes, and Digestive Kidney Diseases study the nature and cause of benign prostatic hypertrophy. Last year they put out a major program announcement encouraging new applications, and the size of that portfolio has more than doubled in the last year.

They are planning a major conference in 1985, and I think there is real reason to hope that the surgical treatment of benign prostatic hypertrophy may in the not too distant future join the iron lung in the medical textbooks as the variation in the use of that procedure vanishes because the procedure itself will vanish.

NIH is dedicated to improving individual public health by the generation of new biomedical knowledge and the effective identification of therapeutic and preventive approaches to disease. We believe the programs of NIH complement those of the Health Care Financing Administration and the national center and other components of the Department and bear positively on many important health questions facing this country today.

Thank you for this opportunity to testify today, and I would be pleased to attempt to answer any questions the subcommittee may have.

Senator PROXMIRE. Thank you, Dr. Gordon.

I certainly don't mean by the questions I am going to ask to indicate that I have anything but the highest respect and admiration for all three of you gentlemen and the remarkable job the Federal Government has done in recent years, not only in biomedical research but in the delivery of medical care. You have had astonishing success. If you looked back 50 or 100 years from now at what has happened in the last 20 years, you would see amazing progress in fighting cancer and heart disease, and in so many other areas. We have extended life. We have improved the quality of life. I say we, but I should say, you gentlemen have done a great deal in this area, and the medical profession has done a magnificent job.

Nevertheless, I get the feeling that Dr. Wennberg has put his finger on something that is very important and cannot only save money but, far more importantly, can conserve our medical resources and save lives.

As I was listening to you gentlemen I was very impressed, but I also got the feeling I was listening to a football scout who might come in and say, "This candidate has a great-looking wife, he has a happy family and good-looking children, he's got good habits and excellent diet and is a regular churchgoer," but forgot to say whether he could play football or not.

In this case, of course, the problem is that in the absence of outcome studies, peer review organizations just don't have the data to determine if admissions are at the right level. The question that was asked by Dr. Wennberg, the important point he has made and made so very well, is why do these enormous variations exist and why hasn't there been more research to help as to deal with unnecessary operations.

What operations are necessary? Isn't it about time that we moved in the direction of requiring that doctors and hospitals only perform necessary surgery and eliminate the cost and the danger of the many unnecessary operations which, according to Dr. Wennberg's well-documented case, are being performed now.

Would you like to respond to that, Dr. Desmarais?

Dr. DESMARAIS. Well, I think what we tried to say is that a great deal is being done already to do the kind of things Dr. Wennberg has suggested, and we are conducting responsible research, some of which I discussed. We have the Rand Corp. under contract with us looking for very specific procedures, looking to see what is going on in the high-, medium-, and the low-use areas.

But I think when you press Dr. Wennberg, he would certainly suggest to you the low-use rate is not necessarily the best. We don't know that for sure and so I think we have to proceed somewhat cautiously with that.

Furthermore, the Medicare data base, which he praised highly, is something we are making available to the peer review organizations that they can use.

So even though we may not know all the answers, if we know there is tremendous variability in a particular procedure, we certainly can use that to examine that specific procedure in that whole area. And that's the kind of thing Dr. Wennberg is suggesting.

Senator PROXMIRE. Let me be as precise as possible, Dr. Desmarais. Will the prospective payment system routinely generate information on variations in practice patterns within and between local markets and, if so, how does HCFA plan to share this information with the medical profession so as to encourage the best hospital use?

Dr. DESMARAIS. The sharing is going to occur at the local level. In fact, for the first time, we have told the peer review organizations to use the data that is generated by the prospective payments system. The claims data contains a lot of information about the age of the patient, the clinical characteristics of the patient, the patient's physician, the length of stay, the charges the care was based upon, and so on. All that data is collected routinely by the fiscal intermediary, the contractor who actually pays the claim.

And that kind of data is going to be shared directly with the peer review organization.

Senator PROXMIRE. You really feel that would enable us to determine whether Boston should be performing more surgical procedures than New Haven?

Dr. DESMARAIS. What it will tell us is that we will be able to know the difference occurs because we are also collecting the national level. What we are not going to be able to do precisely is to say this is the cause of that variability.

Senator PROXMIRE. Well, without knowing why the variation occurs will we get results?

Dr. DESMARAIS. Well, we are approaching it, as I say, from other research. We and the other agencies are supporting other research to try to get at the cause, and that's the Rand Corp. study, is one of those things.

If, for example, we find in a high-use area of the country they are operating the same way as low-use areas, they are selecting the patients the same way, the patients are sick and are in as much need of the particular procedure, then we can't conclude the high-use rate was inappropriate. We simply observe it as a high-use rate because of certain demographic circumstances.

Senator PROXMIRE. Outcome studies would give us answers, wouldn't they?

Dr. DESMARAIS. I'm sure the outcome studies will help.

Senator PROXMIRE. Dr. Marshall, Dr. Wennberg has suggested that the Department should make the goal of, "reducing uncertainty about the outcome implications of commonly used medical and surgical interventions a major departmental priority." That's a quote.

Do you agree and, if so, how do you suggest the Department implement that recommendation?

Dr. MARSHALL. Well, I do agree with that. I think it has been a major priority in much of the research that Dr. Gordon has described. It has also been a major objective of a great deal of the research that the National Center for Health Services Research has sponsored.

The question of whether or not the adequate methodology is there, even though when you can get your hands on a data base, is one that is very hard to come by. Social science is not as well-developed a methodology. Its methodology is much more subject to controversy than some of the biological sciences. And the question of clinical trials, for example, is one that they are very expensive, take a long time.

Recently, on several occasions, we have been interested in trying to do randomized clinical trials and have had groups of experts in the area advise us that it wouldn't be ethical to conduct a clinical trial in an area where the implications of not providing a procedure could be so devastating, the patient would be put in a control group.

There's another issue that also gets involved in the complexity here, and that has to do with questions of confidentiality. Some of the things that I spoke to in my testimony are things that we know from the data base known as HCUP, the hospital cost utilization project, and this is a data base that uses not only the patient abstract but the Medicare cost reports from the hospitals and the confidential data that we get through the American Hospital Association.

That data base cannot be shared because, in order to get the cooperation of the hospital, it must be deeply encrypted because they are worried, probably not without some cause, that the Government would make wrong use of that if they got hold of it.

When you try to share information between entities you sometimes find yourself in court, as was the case with Dr. Wennberg and ourselves, when he wanted to make data available to us to compare with data from Maryland and some other States. People are indeed rift to have those things be known sometimes.

So, yes, we do need to do more in this area. We need to focus, we need better understanding of what the questions are, and we need to continue to put resources into it. But there are other activities that are also important to understand and they must be continued as well.

Senator PROXMIRE. Dr. Marshall, let me follow up by pointing out that Dr. Wennberg has also proposed that the National Center for Health Services Research might take the lead in outcome evaluation within the Department, but has emphasized that while assessment of new technology is important, the lack of understanding of the value of practices that have already been adopted needs special and ongoing attention.

Dr. Marshall, do you believe that the center is equipped to evaluate the efficacy of procedures that have been in use for many years?

Dr. MARSHALL. I don't think we are equipped to do that by ourselves. I think we are equipped to do that in concert with other agencies of the Public Health Service, just as we do in carrying out the responsibility that we have for coming back to Dr. Desmarais, and when they ask us about new technology and we don't have the clinical skills, we don't have the people with that kind of experience. And so we go to the National Institutes of Health.

We go to the Food and Drug Administration and we take the biomedical and clinical knowledge they are likely to have, and we try to assess it in the context of health services research capabilities that are presently in our staff. So I think it's got to be a cooperative effort. I think it has been that. There are, unquestionably, areas where we can work more closely together and as we figure those out, we do it.

We are presently now, for example, engaged in activity with the National Institutes of Health to try to determine whether there are criteria that seem to emerge as being ones that are important in deciding whether or not a clinical trial is appropriate, in trying to identify why is it sometimes clinical trials are undertaken and 2 or 3 years into it, people discontinue the activity, whether it's because the answer is already evident or because it has become so complicated that you can't get an answer.

So we look at those activities together. We work with NIH on concensus development conferences and decide jointly with involvement of the Health Care Finance Administration what the priority areas are for addressing that concensus process.

Senator PROXMIRE. Dr. Gordon, can you give us a rough idea of what steps the Institutes are taking to measure the quality of life gains that follow the use of surgical procedures as compared to more conservative treatment? Are you applying this approach to any specific disease entities at the present time?

Dr. GORDON. I cited in the prepared testimony probably the two best examples but there are other examples in relation to other forms of cancer—surgery, primarily. I did not come prepared with details. Measuring the quality of life is one of the more difficult things. It's a very indefinite measure and can't be related as clearly in a statistical analysis as survival and other so-called hard inputs.

So this has not been a major——

Senator PROXMIRE. How about gallbladder surgery and hysterectomies?

Dr. GORDON. The National Institute of Arthritis, and so forth, mounted a major clinical trial several years ago, not of gallbladder surgery but, again, an attempt to use medical means to forestall gallbladder surgery. That was the national cooperative gallstone study—I think that was the name of it—in which a newly discovered drug was being administered to patients with cholesterol gallstones in an attempt to get rid of them without operation.

The result was less successful than we hoped. About 50 to 70 percent of the patients were rid of their gallstones, and the other eight died.

Senator PROXMIRE. Doctor, what I'm trying to get at, is the steps you are taking to see if existing surgical procedures have been overutilized?

Dr. GORDON. This has not been a major priority in NIH's programs. Our principal interest is a longer-range investment in basic research which will build knowledge base that, in many cases, will prevent disease the surgical treatments are designed to deal with, or will make it more explicit that one or another type of——

Senator PROXMIRE. Well, why shouldn't it be a priority in the Public Health Service to determine if procedures that are in common use are overutilized?

Dr. GORDON. I don't think we should say they should not be a priority. It is a reasonable priority. It has potential implications, as previous witnesses have stressed, and as a great deal of written information has shown us for reducing health care costs.

On the other hand, to put it in competition with the sort of basic research that in the long range will improve our concept, perhaps render many of these questions moot, is the choice that NIH has had to make and has had to decide that given our nature, the facilities, the scientific opportunities at hand, it is a better investment to get rid of the disease rather than refining the information for treating.

Senator PROXMIRE. Dr. Desmarais, can you tell us what kind of clinical information the prospective payment system will produce?

Dr. DESMARAIS. It really won't produce outcome data directly.

I think what Dr. Wennberg envisions is that by using a totality of the Medicare data base one could follow a patient. Say a patient has a prostatectomy in 1984. One could look in the following 5 or 10 years and see what happened to that particular patient.

That is certainly something that could be done with the Medicare data base, but it is not something that peer review organizations are going to follow for a 10-year span, and I think that is what Dr. Wennberg understands as an outcome study.

Senator PROXMIRE. Dr. Desmarais, in his prepared statement, Dr. Wennberg has recommended that a fixed percentage of Medicare and Medicaid dollars be earmarked to improve the knowledge base for services purchased under the Medicare Program and suggested that this would improve the administration's cost containment strategies.

I think this is a very, very significant and critical recommendation. The percentage figure would be a very low one. Dr. Wennberg has used one-half of 1 percent as an example.

What is your response to this suggestion in view of what seems to me to be the potential for enormous savings in terms of both better health and funds?

Dr. DESMARAIS. I think what I would like to say is that we would be uncomfortable with a percentage set aside for the trust fund, and let me say a couple of other things.

First, a lot of the variations that Dr. Wennberg has pointed out are not Medicare beneficiary variations—tonsilectomies and a variety of other procedures. It is certainly more than just the Medicare Program.

Certainly, I think the data we worry about is by a percentage set aside from the Medicare trust fund. People frequently with trust fund dollars, whether it is highway trust fund or any other trust fund, sort of treat that as different from an appropriation, and it is sort of free money. It doesn't seem to carry as much of a burden in spending it, and I think, given the status of the trust fund, we would be uncomfortable with a percentage set aside.

In other words, we are doing a great deal already with both research dollars that are appropriated for our agency as well as with the peer review organizations. We will be spending $150 million a year from the trust fund just to run the peer review organization, which I think is an important endeavor, but I think we are just very uncomfortable about further use of the trust fund dollars.

Senator PROXMIRE. Well, you may be uncomfortable, but we are going to get results one way or the other.

Now, Dr. Gordon, Dr. Wennberg has recommended that a means should be found to coordinate departmental grants programs to assure that proper priority is attached to proposals that seek funds to evaluate common medical and surgical interventions.

I suppose that NIH, as the Nation's leading biomedical research institution, would have a major role in such a coordinated approach. Are you willing and able to implement that recommendation?

Dr. GORDON. I think our present activities go a long way toward that. It may not be widely appreciated that NIH serves as the central receiving point for all grants and other proposals for evaluating outcomes of this sort. Our Division of Research Grants does the initial processing on proposals that end up with the National Center for Studies evaluating such outcomes.

So I think we are already implementing a coordinative role. What we are not implementing at this time is a highly proactive role in going out and seeking means of attacking these problems on governmental funds at Government initiative.

Senator PROXMIRE. I would like to raise this question with both Dr. Gordon and Dr. Marshall.

Are either of you gentlemen aware of any PHS-sponsored studies of the relative risks associated with ambulatory versus inpatient treatment for conditions such as bronchitis and asthma, gastroenteritis, and simple pneumonia or for procedures such as tooth extraction and breast biopsies?

Dr. MARSHALL. Well, we have looked at some of those, and we have looked at one of the most productive procedures to be followed, either diagnostically or therapeutically, in patients with those diagnoses. That work has been sponsored in Boston, and in one place it has been already identified at a hospital that has a very high surgical rate but also has a very strong Ambulatory Care Program.

So it hasn't been that systematic, but it has been incidental to other kinds of health services research that has focused on outcome.

The national center has also spent a considerable amount of money over the last 10 years—over the last dozen years—trying to develop more appropriate outcome indicators, including very, very complex health status indicators, and again the state of the art there, I think, always leaves us a little bit uncomfortable about how much you would hang your hat on those kinds of results.

I was asked frequently this spring in several hearings about the NIH study on coronary bypass showing the percentages that were unnecessary. The present statistical results say retrospectively that 40 percent of the coronary bypass surgeries may not have been needed.

The question is: How do you decide when it is needed for one patient at one particular time?

I think we get uncomfortable with the Government playing much of a role in that.

Senator PROXMIRE. Gentlemen, I want to thank you very much. You have been most helpful.

NONDEPARTMENTAL WITNESSES

STATEMENT OF JOHN P. BUNKER, M.D., STANFORD UNIVERSITY

Senator PROXMIRE. I am now going to ask a panel to come forward as a panel, ask each individual witness to testify, and then I will have some questions for the panel.

Dr. John Bunker of Stanford University; Willis Goldbeck, Washington Business Group on Health; Dr. Thomas Dehn, American Medical Peer Review Association; Dr. James Davis, American Medical Association; Dr. Charles Kiesler, American Psychological Association; and Dr. Wennberg.

PREPARED STATEMENT

Senator PROXMIRE. Now we will hear from Dr. John Bunker of Stanford University and the Center for Advanced Study in the Behavioral Sciences. Dr. Bunker has conducted extensive research into variations in medical practice. Dr. Bunker, we certainly appreciate your making this trip from California to testify today.

I hope, Dr. Bunker, that you and the other remaining witnesses can limit your statements to approximately 10 minutes in length so that we can spend a fair amount of time on questions. All submitted statements will be inserted in the record.

[The statement follows:]

STATEMENT OF DR. JOHN P. BUNKER

Thank you for inviting me to testify this morning on the subject of variations in medical practice as they affect Medicare and Medicaid expenditures. The argument I will present is that the large observed variations in practice are inconsistent with equity and high quality of medical care and with optimal level of public health. I will indicate the direction of corrective action necessary, and I will describe the results to be expected should we fail to take action, most notably the widely feared prospect of rationing of medical care.

In 1970 I reported that there are twice as many surgeons in the United States for each million population as there are in Great Britain, and that they perform twice as many operations. That is to say, in a given year, an American is twice as apt to undergo surgery as is a Briton. This marked difference in probability of surgery has not changed. It was not possible 15 years ago to determine whether the British rates were too low or ours too high, nor is it today. The reason is that we have not collected the data or carried out the necessary clinical trials to allow us to make reliable determinations.

Dr. John Wennberg has shown us that there are large variations in procedure rates between one small geographic area and another within the United States, and that these variations are greater than the differences between the United States and Great Britain. What do these startling differences mean? Do they mean, as one might reasonably assume, that these enormous differences in quantity of care are associated with equally great differences in the resultant health of the populations served? And if so, how can this be reconciled with the high level of medical care that we assume this country is receiving?

The answer is that much of the care we provide, perhaps a half of all care, is on what the economists call the flat of the cost-effectiveness curve, where the benefits and risks are quite evenly balanced, and the net benefits are exceedingly small. Let me give you an example: cholecystectomy has, for many years, been routinely prescribed for patients with asymptomatic gall stones. This major operation is not without risk, however, and using quite simple decision analytic techniques my former associates at Harvard, and Ransohoff and his associates at Western Reserve, have concluded that removal of the gall bladder for asymptomatic gall stones will increase life expectancy by no more than a week or two --and perhaps even decrease it.

The foregoing example is a relatively simple analysis to carry out, since both benefits and risks are measured in terms of survival or death. For much of medical care the analysis is more difficult, particularly when benefits are measured in relief of symptoms, such as pain or disability, and risks are measured in loss of life or morbidity. It is generally assumed, however, that more care leads to better outcomes, even though the improvement in outcomes may be quite small. Let me suggest, to the contrary, as utilization rates are progressively increased, as they are in areas of high operation and high hospitalization rates, that more care may lead to "negative benefits", that the risks may actually exceed the benefits.

A major reason why over-utilization may occur --perhaps the major one --is the natural optimism which physicians bring to their work. The phenomenon has been long recognized and frequently described by sociologists. Its quantitative demonstration has now been provided by Professors Frederick Mosteller of Harvard and Thomas Chalmers of Mt. Sinai and their respective colleagues. They have shown that the enthusiasm with which a new medical procedure is reported in the literature is inversely related to the quality of the experimental design: the poorer the experimental design, the greater the claims for the success of the procedure under study. Since most medical procedures have not been subjected to rigorous and well controlled clinical trials, one can anticipate with confidence that many, perhaps most, medical procedures will be over-utilized.

If benefits are overestimated, risks are almost certainly underestimated. That there are, in fact, large negative effects of therapy is quite clear. All elective surgery and drugs carry risks. For surgery, in particular, these risks are substantial. Most of the operations for which the large variations are observed can be assumed to be elective or discretionary. (Conversely, it is assumed that urgent, emergency and life-saving surgery is available and utilized by different geographic populations at essentially the same rates.) The large majority of surgery, perhaps 85-90%, is for non life-saving purposes: relief of discomfort, disability, or disfigurement. While such surgery is not intended to prolong life, it may nevertheless shorten it, since all surgery carries some risk of death. The net impact of such surgery is, therefore, to shorten life expectancy of the population as a whole. This effect was dramatically demonstrated during the Los Angeles physician slowdown of 1976 during which emergency but not elective surgery was performed. Total population mortality for Los Angeles County fell by approximately 1/3 during the 5 week slowdown and rose again after it ended and elective surgery was resumed.

In 1973 Dr. Wennberg and I suggested, in an editorial in the New England Journal of Medicine, that the then lower life expectancy in the United States and Canada compared to that of Great Britain could be explained, in part, by the twofold greater volume of surgery on this side of the Atlantic. This hypothesis has recently been confirmed and extended by Drs. Noralou and Leslie Roos in Manitoba, where they have found that age adjusted mortality rates for men are greater in those small geographic areas where prostatectomy rates are highest.

Let me state at once, and strongly emphasize, that I am not implying that the effect of elective surgery on mortality rates means that such surgery should not be performed. What I do say is that the inherent risks of surgery --as well as those of medical and diagnostic procedures --are part of the price that each patient pays for the potential benefits of the procedure. Since these costs can be large, it is obviously important to learn as much as we can about the potential benefits so that patients and physicians may make truly informed decisions. Our first task, therefore, is to establish and fund an appropriate national capability for the evaluation of the effectiveness of new --and also old --procedures.

My associates and I have previously recommended, in a report to the Office of Technology Assessment, the establishment of an Institute for Health Care Evaluation. Public Law 98551, signed by the President earlier this month, which expands the mission of the National Center for Health Services Research to include health care technology assessment, has established a structure and mandate appropriate to this need. What will also be needed is a markedly enhanced investment in health services research and in health services research manpower training if we are to realize this now substantial potential.

Let me comment briefly, at this point, on what I perceive to be a fairly widespread confusion concerning the respective missions of the National Institute of Health (NIH), and the National Center for Health Services Research and Health Care Technology Assessment (NCHSRTA). NIH, in addition to its mission in basic biomedical research, underwrites a substantial number of randomized clinical trials. The latter are in fulfillment of NIH's responsibility to assess the safety and efficacy of new therapies. Efficacy is defined as performance under optimal conditions. How the drug, or device, or operation functions under the routine use of clinical practice, defined as effectiveness, is the responsibility of NCHSRTA, and it is a big one. In addition, NCHSRTA must assess the economic, ethical, social, and psychological impact of medical practices, and must play a leadership role in translating research findings into the information needs of medical practitioners. The brilliance of the accomplishment of NIH in fulfilling its biomedical mission is in sharp contrast to the federal inattention to the goals of NCHSRTA. This policy failure is summarized in the enclosed recent essay and book review from Nature.

Dr. Wennberg has already outlined, in his testimony today, specific steps needed to be taken by the government, and I will not repeat them except to urge that future studies of the outcomes of medical intervention include careful studies of patient values. I have already discussed the overexpectations and the high values that physicians themselves place on medical intervention. The study of patients' values is currently in a very early stage of development, but it is already quite clear that patients may have very different values concerning intervention than those of physicians. I would also point out that when benefits and risks are fairly evenly balanced, as I have suggested is very often the case, the patient must be actively involved in the medical decision process if the outcome is to reflect that patient's self-perceived best interests.

If we fail to develop a vigorous national capability to evaluate the outcomes of medical care, if we accept the status quo, we will almost certainly face the immediate need to ration medical care. It should be noted, of course, that we have already begun to do exactly this, particularly for the disadvantaged. Indeed, the process has already progressed to the point that there are some who do not receive basic and well established health services, such as immunizations and prenatal care, while there is widespread over-utilization of health services by other segments of the population, and in some geographic areas.

We are talking now, however, of the rationing not only of basic medical care, but of care much of which is of unmeasured and uncertain efficacy and effectiveness. This brings me to an important philosophical and conceptual point. The medical profession in this country has a strong commitment to provide all care that might be beneficial and that precludes only care that will do harm. My own view, as a sometime patient is that, at least for most nonlife-threatening conditions, a more appropriate rule of thumb would be to provide (or accept) care only when it has been shown to be effective. Some physicians and patients, such as those of the Midpeninsula Health Service based in Palo Alto, have adopted a policy that closely reflects this perspective, and with cost savings in hospitalization greater than those achieved by most prepaid plans. A wider adoption of this view would obviously have large implications for national cost saving and for deferring consideration of the need to ration.

There is much that can be done short of rationing and in addition to the evaluation of medical procedures, on which we have focused our primary attention today. These include decreasing the need for medical care through prevention, and we have already seen important progress on this front. Our large investment in basic research, primarily at NIH, will continue to pay dividends in health-improving technology, and it must be appreciated that innovations need not all be cost increasing: Lewis Thomas has made the important point that truly effective medical technology, such as immunizations and disease specific antibiotics, will be less expensive than the complex but inefficient "halfway technologies" that make up such a large part of our existing medical armamentarium. Finally there is the whole question of the efficiency of health care delivery, and whether substantial savings can be achieved through improved organization of health care delivery, including the regionalization of complex medical and surgical procedures.

Let me summarize. We have been put on notice that we are on an immediate collision course with the prospect of widespread rationing. The correction of the defects underlying the widespread and large variations in health care delivery, through an improved national program of health care evaluation, together with other reforms as briefly outlined, can be expected to lead to improved outcomes and marked cost savings, and the deferral of the need to consider rationing. Nevertheless, the possibility of the future need for rationing, with further advances in medical technology over the next several years cannot be discounted. Greater efforts at health promotion and disease prevention, the development of cost saving, rather than cost increasing technology, and improvement in the organization and delivery may all help to avert this calamity.

Dr. BUNKER. I would like to address some of the questions which have already been raised rather than to follow my prepared testimony.

Senator PROXMIRE. Fine. I meant to suggest that each witness could respond to the issues that have been raised, and then we would be glad to receive your testimony as long as you confine your comments to 10 minutes or less.

Go ahead, sir.

Dr. BUNKER. It might be useful to begin with the question that you addressed to Dr. Wennberg at the beginning; that is, what are the potential impacts of higher rates of utilization, what I might call overutilization.

I would prefer not to use the words "unnecessary surgery" or "unnecessary hospitalization" simply because in most cases we really don't have the information that would allow us to say this is or was unnecessary.

I think perhaps it is a semantic quibble when I call it overutilization, but I do think it is reasonable to consider Dr. Wennberg's areas of high utilization as overutilization. By this I mean that, intuitively, I think we know the appropriate level of utilization must lie somewhere between the high and the low.

I suppose it is possible to argue that high rates are the right rates. Stanford statistics Professor Bill Brown and I, a number of years ago, attempted to address precisely this question. We looked at the rates of the kind of operations we are talking about today, including, in particular, hysterectomies and gallbladders, hernias, and appendectomies among physicians, when they are patients, and their spouses, and compared their rates with those of lawyers, businessmen, and ministers in northern California.

As a fairly conservative physician, my hypothesis was that I would find doctors have fewer of these operations. But it turned out that, in fact, physicians had as high or higher rates than the lawyers and their wives. It was an interesting result. It was not what I expected. It does at least strongly suggest that doctors believe in the things they do to the extent they are willing to submit to them themselves.

Well, now what are some of the potential impacts?

First, I would like to call attention to the fact—and I consider this a fact with which few physicians would disagree—that most medical care is not devoted toward prolonging life or decreasing death. It is directed, rather, toward improving the quality of life.

And we have already addressed the quality of life issues with the previous panel of witnesses.

Let's say that no more than 10 or 15 percent of the medical profession's effort is devoted toward preventing death. Now, on the other hand, everything we do in medicine carries risks, and surgery certainly carries substantial risks. Therefore, if you carry out more surgery in the effort to improve the quality of life, there will also be an attendant risk of death, and the risk is not a trivial one. It is part of the price the patient pays in order to receive the potential benefits of surgery.

Dr. Wennberg and I, a good many years ago, made what many people thought an outrageous suggestion. We suggested that the lower-life expectancy in the United States and Canada in comparison with that in Great Britain was at least in part attributable to the fact we have twice as many surgeons and do twice as much surgery per capita as they do in Great Britain. This doesn't necessarily mean that we are doing too many operations, but it does mean that we should find out more about what the benefits are.

We do know a lot about the risks. We know what the dollar costs are, and we know a good deal about the risks in mortality and quite a bit about the risks in morbidity, although not as much as we should——

Senator Proxmire. Dr. Bunker, did I understand you to say we do twice the surgery and have a lower life expectancy?

Dr. Bunker. There was a lower-life expectancy in this country than in Great Britain 10 or 15 years ago, when we were doing these studies.

Interestingly, it has changed now, and life expectancy in this country is slightly greater than that in Great Britain. It is hard to say exactly why this is, but I think a major possible contributor—perhaps the major one—is that we in this country have made a much greater antismoking effort than they have in Great Britain. In fact, Great Britain in 1971 made a costly decision, contrary to the advice of the Royal College of Physicians, not to mount a major antismoking campaign.

Senator Proxmire. To the extent there is evidence of a greater amount of surgery in this country, at least you could say it does not result in greater longevity?

Dr. Bunker. No; and I would predict that result simply on the basis of my knowledge of what medicine and surgery are all about. I assume—and I think Dr. Wennberg's data are at least consistent with this—that essentially all our people get emergency surgery and life-prolonging surgery. Where these variations occur is in purely elective or discretionary procedures, primarily.

A lot of this medical and surgical care is on what the economists would call the flat of the curve, the cost/benefit, or cost-effectiveness curve, where the benefits and risks are almost equally or closely balanced.

In other words, the decision whether or not to operate could go either way, and it is a very difficult call to make. We often don't have in our individual capabilities as physicians enough experience to say that a patient is a little better off or a little worse off for having had a particular elective procedure.

I give in my prepared testimony the example of cholecystectomy for asymptomatic gallstones—gallstones that are not causing symptions, so-called silent gallstones.

Traditionally, surgeons have recommended removal of the gallbladder under these circumstances on the basis that if we take it out now there is a mortality of perhaps only one-half of 1 percent, depending on your age and general medical condition; but if we wait until you have an acute attack 10 or 15 years later and you are older and sicker, the chance of dying is obviously greater.

While new outcome data are needed for many procedures, existing data are adequate to throw light on many such questions. Thus, in the gallbladder example, risk-benefit and decision analyses show quite clearly that the operation carried out electively and in the absence of symptoms for patients who have had no attacks of cholecystitis does not increase life expectancy. If anything, according to Ranshoff in analyses carried out at Western Reserve School of Medicine, it may decrease life expectancy by a week or two.

So, clearly, this is not an indicated procedure.

I'd like now to address the questions, why are doctors so prone to intervene? Why do we treat when we could withhold treatment with equally good results?

Well, we are naturally optimistic. I don't want to go to a doctor who is a pessimist, and I don't think you do either. We believe in the things we do. In the absence of clear-cut or decisive data physicians will usually favor intervention over nonintervention. Professors Mosteller and Chalmers at Harvard and at Mount Sinai, and their associates, have carried out convincing studies explaining why it is that physicians tend to overestimate the benefits of the treatment.

~~They have demonstrated from~~ published reports of clinical trials that where the data are poor, in a poorly controlled or uncontrolled study, the investigator reporting on the benefits of a particular treatment are usually overly enthusiastic. When the study is well-controlled, they are apt to be less enthusiastic.

One of the reasons why clinical trials are often inconclusive—and I think Drs. Gordon and Marshall touched on this—is that successful trials are apt to be long and expensive. Medicine, today, is to a very large extent made up of small advances and only rarely of giant leaps forward such as the advent of open heart surgery or the introduction of antibiotics.

A 10-percent improvement would be important, and we would all welcome even such small steps forward. To demonstrate an improvement of this size will, however, require a large number of patients. Let's say we have a treatment with an improvement from 45 to 55 percent success rate. It would take two samples of approximately 545 patients each, perfectly matched and compared, in order to demonstrate that 10 percent improvement with 95 percent confidence.

Well, I've already taken the 10 minutes which you allowed me, Senator Proxmire. I do have some other comments to make, but they can come later on in the discussion period or however you'd like to proceed.

Senator PROXMIRE. Thank you very much. I would like to call attention to a dramatic statement you made on page 4 of your prepared testimony. You wrote, "During the Los Angeles physician slowdown of 1976, during which emergency but not elective surgery was performed"—in other words, there was less surgery—"total population mortality for Los Angeles County fell by approximately one-third during the 5-week slowdown and rose again after it ended and elective surgery was resumed."

Dr. BUNKER. Yes; this is consistent with what I was saying a moment ago, comparing Great Britain and this country in their mortality rates. We don't know what happened to the patients a year later, but I doubt that any of them were harmed, and I assume—in fact, we know, that emergency surgery was carried on during the strike.

Now, on the other hand, some surgery, possibly some cancer surgery, was deferred during that period. How much harm was done, I don't know. And again, I want to emphasize, I'm not suggesting that those procedures should not have been done, but I am suggesting that we have to weigh the benefits and the risks.

There is one other issue I really must emphasize that came out in earlier discussions, and this is a question of patients' values. Patients' preferences have played a very small role in what doctors have done in the past. We need research on outcomes, but we also need research on patients' values.

My own very strong expectation, and despite my studies of doctors' operation rates that I cited earlier, is that better informed patients are going to opt for less medical and surgical intervention. They do not necessarily share the over-enthusiasm, the over-optimism of doctors for all the procedures that we as doctors carry out.

Senator PROXMIRE. Thank you very much.

STATEMENT OF WILLIS B. GOLDBECK, PRESIDENT, WASHINGTON BUSINESS GROUP ON HEALTH, 922 PENNSYLVANIA AVE., S.E., WASHINGTON, DC

PREPARED STATEMENT

Senator PROXMIRE. Our next witness is Willis Goldbeck, president of the Washington Business Group on Health.

Glad you could appear today, Mr. Goldbeck.

[The statement follows:]

STATEMENT OF WILLIS B. GOLDBECK

Mr. Chairman, Members of the Committee, my name is Willis B. Goldbeck. As President of the Washington Business Group on Health, it is my privilege to bring you the perspective of many of the nation's largest employers.

Employers have a place in this hearing because they are the aggregate consumers of medical care. As such, they share the needs and concerns of the individual consumer. Further, employers represent a great force for change due to the economic clout of their combined purchasing power and due to their ability to provide information about the wise use of the medical system to millions of employees, retirees and dependents.

The growth of employer sophistication about cost management has resulted in a clear understanding that data which allows for a comparison of providers by quality, service, practice patterns and price is essential.

Anything less than the full disclosure of all such information is a direct violation of the rights and needs of all consumers.

Anything less than full disclosure of all research into the variations in medical practice patterns will fail to give the public and Congress the quality of care we all deserve and can obtain.

Variations in practice patterns represent both the richness of our medical industry and the ignorance with which many are able to practice in our current system. Any effort to narrow or even more precisely understand these variations must seek to preserve that richness while excusing the ignorance.

As you consider these complex problems, there are several aspects of the context in which they operate that warrant attention.

1. The biggest threat to providing care for the poor and elderly is the excess and waste in the current system. Variation analysis is one weapon for reducing that waste without threatening rationing or lower quality.

2. Mediocrity will be encouraged in any system where reimbursement is based upon UCR. Variations derive from dollars as well as knowledge or the lack there of.

3. The public and private sectors must work together, not just pass cost increases back and forth while claiming to reduce expenditures. Comparative data is the roadmap for responsible cost sharing as opposed to cost shifting.

4. Our medical liability system is in urgent need of reform. Congress will be reviewing several bills that would lessen or remove the Tort system as the "court of first resort." While these are commendable proposals, they address only one part of the problem. Of equal importance is the need to firmly establish standards of excellence against which performance can be measured. Variations in practice patterns are a lawyers' dream come true and a nightmare for anyone trying to put some order in the liability process.

The variations issue is a manifestation of larger and deeply rooted problems.

1. The failures of medical education to provide either a sufficiently strong scientific base for the decisions physicians must make or an adequate process to keep physicians current. The tragedy here is that ample evidence exists that physicians desire to be up-to-date; will make the effort to learn if the opportunity is afforded then; and will change their practice patterns rather quickly in the presence of new information...if that information is presented by a respected source and/or tied to economic incentives through reimbursement.

2. The attitude that practice patterns should vary according to local conditions. While it is true that medical care is locally delivered and can benefit from service or even financial modification to meet local needs it is equally true that the human body is not radically variable by zipcode. Unless the population

mix is different, there is no reason for the community utilization profiles to vary significantly. Wennberg's work has amply demonstrated this point. If a technique has proven to be effective and efficient in one town, the fact that providers in the next town are either ignorant of the procedure or economically motivated to use another method should no longer be tolerated. Variations within the range of excellence are fine; variations from excellence due to old habits are unacceptable.

3. If variations problems are in part traceable to a failure to keep up with the ever more rapid developments in technology, then the current licensure system needs to be changed. Congress and the public have long recognized the need to re-certify hospitals. In fact, it was only two years ago that JCAH went to the three year accreditation system. One of the central features of any JCAH or state government accreditation program is quality assurance. Without suggesting that their systems are perfect, they do comprise an efficient method of technology diffusion and give other consumers some measure of confidence that there is an institution concerned with their protection. No comparable system exists for physician and non-physician providers. Someone licensed 20 years ago is just as licensed as one who passed his or her test last week. Many professional organizations have advanced education and rating systems but these are not validated as to effectiveness and the public has no means of access to either the process or results. A priority for Congress should be the design of a re-licensure system to reduce variations and protect consumers.

Role of WBGH

Improving access to provider-specific price, quality, and utilization data has represented one of the WBGH's primary goals over the last several years. 1984 efforts included building a coalition that endorsed Title V of the Health Professions Education and Manpower Bill in the House of representatives, and the compromise with Senator Quayle's bill, which passed Congress in the Fall. Though the bill was vetoed by

President Reagan, the WBGH has moved ahead with some of the bill's key provisions.

The amendment proposed developing technical expertise at the federal level that incorporated the input of interest groups like business and labor. The WBGH has recently constituted the National Advisory Committee for State Data Commissions. The committee is comprised of twenty representatives from business, states, and labor, all with considerable expertise on data issues. The committee has begun by focusing on the pros and cons of state data collection efforts already in operation. It will continue to meet until it has agreed to protocol, standards, data elements, and collection and dissemination rules for a model state data commission. Such a commission will be designed with sufficient flexibility for implementation in any state. The expressed purpose of the exercise is to facilitate the rapid development of a network of state data commissions (or reasonable facsimiles) that will be comparable across the state boundaries. For multi-state employers and unions this is a must. For the federal government, such a network would greatly enhance federal data collection, leading to a more precise understanding of the nation's health care system. Without an adequate database, policy-makers will continue to operate in an information void, accepting or rejecting proposals without sufficient information.

When the Prospective Payment Advisory Commission was appointed with no representatives from the employer community, WBGH established the Employers Prospective Payment Advisory Committee. EPPAC, Chaired by Jack Shelton of Ford Motor Company, has worked closely with ProPAC's very cooperative Chairman and Director, One of EPPAC's projects in 1984 has been a study of prices for the top 10 DRGs. (see list below)

DRG CODE	
039	LENS PROCEDURES
133	ARTHEROSCLEROSIS WITHOUT COMPLICATIONS
134	HYPERTENSION
140	ANGINA PECTORIS
143	CHEST PAIN
160	HERNIA PROCEDURES, 18-69, EXCEPT INGUINAL AND FEMURAL

182 ESOPHAGITIS, GASTROENTERITIS, AND MISC. DIGESTIVE DISORDERS
262 BREAST BIOPSY AND LOCAL INCISION FOR NON-MALIGNANCY
355 NON-RADICAL HYSTERECTOMY (UNDER AGE 70)
371 C-SECTION WITHOUT COMPLICATIONS
373 NORMAL DELIVERY WITHOUT COMPLICATIONS

The analysis examined the variation in charges both for Medicare and private sector employees.

Though disclosure of accurate price information is critical for a free market system, the participating companies in the study experienced a number of hurdles and headaches in trying to collect the data. Many insurance carriers could not or would not comply with the wishes of their clients. Some hospitals were very helpful while others refused completely. Coding systems were hard if not impossible to match and getting any information that is physician specific was next to impossible.

Dramatic price disparities between hospitals presumably providing the same level of care became apparent when the data we did collect was analyzed. Furthermore, employers' charges for the same medical care was rarely priced at the Medicare level; it varied from 20 percent less to 35 percent greater than Medicare charges. Of greatest concern to the members of EPPAC was the increasing evidence of an inflated base in the Medicare DRG charge structure. Since it is a product of historical costs, unmanaged pricing strategies could have effectively bloated the inputs that were factored into the current DRG prospective prices.

For the Committees' reference, membership information for the participants in EPPAC and the Data Commission are attached.

Other WBGH activities include:

a. With the American Health Planning Association and the NCHSR, we are sponsoring a series of intensive workshops conducted by Jack Wennberg, Phil Caper, and Mike Zubkoff of Dartmouth to help business leaders, coalition staff and health planners understand the small analysis system.

b. In February 1985, WBGH will join with the National Governors Association to conduct a national conference on data systems and their impact on both cost and quality.

c. We were directly involved with Senator Durrenberger in the design of the new PRO system. We support the open access without lany provider approval to all private pay patient records for which the PRO has a review contract. In cooperation with the American Medical Peer Review Association, we will be conducting a program to educate and assist business persons who are selected to serve as PRO boards.

d. Our magazine, Buisness & Health, devotes regular coverage to all sides in the debates over data, access to data, practice pattern variations and the controls which can be used by private and public purchasers.

e. We provide technical assistance to individual employers, local coalitions, and state governments on the issues of data and medical practice patterns.

f. Our two newest institutes (Aging, Health & Work and Rehabilitation & Disability Management) have agendas which include the collection and dissemination of consumer information.

It is our strong belief that the employers need for data does not represent a threat to patient confidentiality. Employers do not need patient specific records, they need provider specific records.

Management of costs need not be anti-union. A good strategy ;is dependent on good data. Once that is obtained on a regular bases, benefit management can actually increase quality while reducing costs. Data about6 practice patterns is essential for:

a. selection of HMOs and PPOs

b. benefit utilization incentives

c. wellness program design

d. utilization review and precertification

e. insurance contract bidding

f. patient education

g. trustee education

h. facilitate planning

i. disability cost control

j. elimination of excess exposure to infection and other iatrogenic results of otherwise unnecessary hospitalization and testing

k. selection of facilities which do the most volume per procedure

Types of Data

While the focus of this hearing is on the variations in practice patterns issue, there are many examples of data collection that can serve the consumer interest in quality and cost management. Unfortunately, the opposition of some in organized medicine and elements of the hospital industry continue to stand between the data and the consumer.

The list which follows identifies just some of the data that needs to be regularly available.

o Among 9 Chicago area hospitals, the price range for cholecystectomy for age 27-68 is from $1755-6892; length of stay range of 4-10 days.

o In Arizona, Phoenix has 5 trauma centers, Tucson 0.

o The variable debt service to per diem cost ratio is demonstrated by four Arizona hospitals:

Dollars Per Diem	Amount allocated to debt service
182	110
108	89
180	53
158	12.80

- The concept that prices should reflect local conditions is attractive, but there are 39 fee screens in Texas alone!

- Hospital bill audit firms report that in excess of 90 percent of large bills contain overcharges.

- In New York City, hospitals that did open heart surgery did between 75-1337 cases in 1981; in California in the same year 47 hospitals did less than 200 cases.

- Rand estimates that 20-30 percent of all medical care is unnecessary.

- Researchers at Boston University Medical School report that 25-50 percent of lab tests serve no clinical purpose.

- Urinary tract infections caught in the hospital cost an average of $5451...or a total of more than $575 million dollars per year nationally.

- The Administration repeatedly proposed the elimination of the PRO program as a cost cutting measure. However, this program is one of the few defenses against excess utilization and the total PRO budget is one tenth of one percent of the Medicare hospital budget.

- Blue Cross/Blue Shield of North Carolina reports admissions per thousand by county ranges from 89-201; days per 1000 range from

461-1257; hospitalization per 10,000 for respiratory diseases range from less than 20 to 229.

There are just a few examples of the data that needs to be available to every consumer and purchaser. Further, it all needs to be provider specific. Freedom of choice, a hallmark of U.S. medicine, has no meaning, provides false expectations and dependency on the profession unless we can all have the information which will make free choice really informed choice.

Key Questions

In the process of espousing greater consumer access to provider-specific data, we have been challenged to respond to several important questions.

A. Are practice pattern variations good or bad?

Like many questions, this one presupposes a simplicity of answers that does not exist. Variation is wonderful when it is the essence of experimentation, of growth in knowledge, of that amorphous bridge between science and art, or when it is the final thread of hope to which a patient clings in a near dearth circumstance. Variations are awful when they represent ignorance, stultification, and the absence of outcome measures which would validate the complex process of medical decision making. Variations which represent advances in medical capability are grand. Those which represent the destruction of patients on an alter of reverence for familiar methods or income maximization are not to be tolerated.

Central to this issue are two points the Committee is urged to consider.

One: The public has the right to know what variations exist, which represent the best of art and which represent the worst of science and/or avarice. To achieve this end we must expand population based analysis like that pioneered by Jack Wennberg and we must have full disclosure laws to ensure access to all data that will help individual and aggregate consumers make increasingly informed choices.

Two: A major investment needs to be made in outcome measures which will establish acceptable standards of medical practice that withstand the scrutiny of scientific rigor while remaining respectful of the flexibility necessary to accommodate the art of patient care. At the national level, Congress must appropriate the necessary funds. This is no less significant than the role Congress played funding hospital construction or medical education. The fact that research of this nature will take many years and cost billions of dollars should not restrain our quest. We are spending more than one billion dollars per day now with only the most fragile science base. Is it so unreasonable to suggest we invest in learning how to spend those revenues wisely? Business will, in addition to its share of taxes, need to contribute to this research effort. We are speaking with companies to ascertain the feasibility of taking some major portion of the funds that have traditionally been devoted to hospital development and allocating them to outcomes research. Whether or not we are successful is not significant; the nation cannot afford to continue to finance medical care without knowing what is a worthwhile purchase.

B. Will business use data responsibly?

A frequently asked question, it is none the less amusing for its naivete and annoying for its arrogance. Naive because it presumes there could be a single behavior by all employers. Arrogant because it suggests that (a) there is a common definition of responsibility established by providers to which the rest of us must adhere, and (b) that the behavior of business is presumed to be more suspect than that of the other players in the health care system.

It may be appropriate at this point to note that the most irresponsible act ever perpetrated in the history of medical data has been the organized effort to hide that data from consumers. Further, when it comes to irresponsible behavior, DHHS and the Office of the Inspector General have to publish documents to protect the public from fraud and abuse by providers.

There will always be some employers who do not treat employees well, who misuse data, who produce unsafe products or pollute our air and water. The current debate about medical care will not change this ugly reality, for the better or for the worse.

The key point your committee needs to understand is that business cannot be a responsible medical care consumer without access to comparative data. If a company abuses the data, it should be punished under the applicable laws and in the glare of public opinions. However, no abuse constitutes a reason to keep the rest of employers, unions, and individuals from access to the data that is rightfully theirs.

C. How do employers expect to measure quality?

Employers would prefer that the medical profession develop its own quality measures. That is why we support a major outcome research effort. However, we do not accept the contention that no worthwhile measures exist. Infection rates by hospital, by procedure for case matched populations; volume of such procedures as by-pass surgery; ordering of tests that are not used for clinical decision-making; re-admission rates; case matched morbidity and mortality rates...these are far from perfect and certainly not sufficient but they and others like them are a positive step in the right direction. Data that depicts, for the purchaser, the variation in practice patterns is another clue to quality and appropriateness. The critical point is that it cannot measure quality, or provide responsible information to other employees if access to comparative data is prohibited.

D. Business is really just interested in price, isn't it?

Naturally, and quite appropriately, business does want to use data to cut the amount they spend on unnecessary care, poor care, care in the wrong settings, and inefficient providers when more efficient sources exist. However, smart employers also know that "cheap" care is not always the best in either health or economic terms. They know that educating their employees, retirees, and dependents about the prudent use of the delivery system will save those insureds as much as it will save the company. They know that the highest priced care is not necessarily the best quality care. The best care that an employer can buy is the most appropriate in terms of location; most efficient in practice pattern and use of ancillary resources; of highest quality in terms of health outcome; most respectful of the patient's psychological needs; and requiring the shortest period of disability. The price of any one component of the total care received is far less important than the total financial impact of the incident upon medical costs, productivity, absenteeism and disability. Neither labor relations nor common since nor profit incentives provides justifications for employers to knowingly buy poor quality care.

Conclusion

> "What Mr. Goldbeck apparently fails to recognize is that most hospital managers are better-trained and have more negotiating and pricing experience than the power-hungry benefits managers for whom he's working.
>
> "He forgets hospital managers will be negotiating with every employer in their markets, and like all sellers, they will know more about the market than any buyer who is only in the market once a year or so.
>
> "Information is power, and Mr. Goldbeck thinks his members can demand every bit of data a hospital owns. Sorry, but you're dealing with private corporations, for the most part, not government agencies. And hospitals will be extremely reluctant to give data to their customers or competitors down the street now that they must bid for business."
>
> Modern Healthcare - April 1983

> "While there will be some distortions by competitors, politicians and the media, a vast majority of interested consumers will be able to sort out fact from fiction.
>
> "It's time to experiment with greater disclosure of information about the performances of hospitals and physicians. Most hospitals will look good. Almost every hospital, however, has at least one department that can do better. All will strive to do better when they know the whole world is watching.
>
> "Providers will compete not only to promote their strengths but also to produce the best product. Today, not even the best boards of directors really know how their hospitals' services compare with those of their competitors or other hospitals across the country. They will learn a lot from the HCFA data.
>
> "The American Hospital Association and American Medical Association should drop their opposition to HCFA's efforts to enlighten consumers and promote competition and encourage age excellence."
>
> Modern Healthcare - July 1984

There is nothing we can add that would be a more clear demonstration of the speed of the past year's evolution in the acceptance of our basic contention that disclosure is good public policy. We appreciate your interest in this topic because it is not merely a discussion of statistics but rather a recognition that we have within our group the opportunity to make the next generation of medical care the first to be responsive to an informed public. Thank you for inviting our participation.

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Mr. GOLDBECK. I appreciate being with you. I would say at the outset that there is really no separation between the interests of Medicare on subjects like this and the interests of the rest of the community at large and certainly of the business community in its role as employer and payer of the medical benefits for tens of millions of people. One only needs look at the mere fact that we are facing a $2 trillion unfunded liability for the retiree medical benefits of the "Fortune 500" alone to see that we have a common interest in whatever possible savings and improvement in the quality of life can come out of the investigation you are leading here today.

As a nation, we can afford all the medical care we need, including the preventive and chronic and long-term needs we have chosen to ignore in the guise of rather poorly directed cost savings in the past. We choose to have an unmanaged system. We choose to spend our dollars elsewhere. We have chosen to pay blindly for excess, and we are just starting now to encourage the Government and industry to raise questions about this. We have chosen to allocate more Federal dollars to tobacco subsidies which serve only to increase illness and death than to research on the kind of outcome studies that Dr. Wennberg is talking about.

We choose to have our youth go through school educated in drug use and ignorant in nutrition. We make those choices.

We are now dealing with economic imperatives that, ironically, may prove to be the greatest stimulus in the joint public and private effort to improve the science basis of medicine. We are also faced with constant challenges about whether or not we would be interfering with the freedom of choice by patients if we delineate their options more clearly based on the outcomes of research or reduction in practice pattern variations.

From the standpoint of our organization, the public has never had enough information to use in the first place. Therefore, they have never had an opportunity to make an informed choice. You, as a consumer advocate, clearly recognize that there is a choice per se only in a legalistic sense, unless there is the kind of informed choice that enables people to express the preferences that Dr. Bunker articulately expressed, based on knowledge, not on mythology.

We would totally endorse the objectives stated by Dr. Wennberg to improve the research base in this area.

I found a clear message that I hope you and the other members of the committee heard. This work should not be turned over to NIH. They don't want it. It would be, in the words you just heard, comparative with what they view as their basic mission. And that mission is of great importance. Let's not have a false competition. Let's decide that this, too, is a national priority and, therefore, must have a leader—a leader that desires to lead. We have to establish this as a priority, if we want something to happen.

There are a whole series of related topics that we tried to address briefly in our testimony. Congress is going to be grappling with malpractice from a legalistic standpoint in tort law versus arbitration or the no-fault approach. Certainly an equally important aspect of the malpractice system—and its reform—is the establishment of standards everybody can stand behind, therefore, not have what should be scientific questions resolved by judges.

The business community, at least as I understand it, would be quite happy to have the New Haven model. Even if it is imperfect at this time, given all the other choices where neither the costs nor quality found in New Haven are available.

One of the questions that we are most often asked is, whether or not business can or will attempt to be responsible in its use of data. But in general, for a business to be a responsible player, it must have the data.

We can't design benefits well and not know on what basis. We can't select ambulatory surgical procedures for which there should be economic incentives, unless there is a science basis. We can't predetermine what will be the best precertification program, absent comparative information. Business leaders can't select the right HMO's or design the right PPO's, absent any ability to compare physicians and hospitals by name, by their outcomes and by their prices.

Wellness benefits, and even corporate philanthropy are far better allocated and designed in the presence of good data than in its absence. The same is true of the ability to know which hospitals do the most procedures for which volume has been determined to have a direct relationship to quality. Fortunately, the high volume providers almost always have a positive correlation to cost as well as quality.

The business people have heard that impact markets do exist. They just don't make a lot of sense economically or medically.

Competition and regulation are not going to be a choice in this society. We will have both, and it's achieving the balance that's going to be significant. That balance must be reflected in the effort to reduce unnecessary variations. In our view, variations are fine when they're in search of excellence; they are not to be tolerated when they're the subject of ignorance, old habits or avarice.

I couldn't help but enjoy the ringing endorsement by the administration witness of the PRO Program which they just spent 3 years trying to eliminate. I hope that as one aspect of their reformed thinking, they also recognize the value of health planning and the development of outpatient utilization data that is at least as important as the inpatient DRG system. We are working toward having magnificient new systems of inpatient data at the very time we are all working together to get everybody out of the hospital.

It seems to me the public can understand this information when it's expressed in clear English. Business leaders can understand it. We have an interest in challenging the terms of dissemination.

I believe you heard a very ringing endorsement—and quite rightly so—of the rigor that the scientific community brings to dissemination—the 7 to often 15 or 20 year process by which new procedures become inculcated within the society.

I don't think we can afford to wait 7 to 15 years for all the different procedures that are available for correction or improvement or at least examination today, so there is a dissemination issue in its own right.

Price and quality are often confused. The consumer has a right to this data, whether it be the individual consumer or the aggregate consumer. They have a right to the data, whether or not their interest is price or quality or any other measure. The Government has an obligation not only to help generate data but to see to it that the rest of us have access to the data. There is an economic imperative, just as there is a consumer right.

You have the opportunity to increase the opportunity for the next generation of medical practice be predicated upon the first time we ever had an informed public. It seems like a worthy objective.

Thank you very much.

Senator PROXMIRE. Thank you very much.

STATEMENT OF DR. THOMAS DEHN, M.D., VICE PRESIDENT, AMERICAN MEDICAL PEER REVIEW ASSOCIATION

PREPARED STATEMENT

Senator PROXMIRE. We will now hear from Dr. Thomas Dehn, the vice president of the American Medical Peer Review Association. Dr. Dehn is from Milwaukee, WI.

Dr. Dehn, we are delighted that you could be with us today.

[The statement follows:]

STATEMENT OF DR. THOMAS DEHN

Senator Proxmire, I am Thomas Dehn, M.D., Vice President of the American Medical Peer Review Association (AMPRA) and a practicing physician in Milwaukee, Wisconsin. On behalf of AMPRA and its member Peer Review Organizations (PROs) and other physician directed medical review organizations conducting review services in the public and private sectors, I want to express my sincere appreciation for the opportunity to share our views on variations in medical practice.

Senator Proxmire, the physicians and staff that comprise our membership have long recognized that variations in medical practice patterns in the United States exist. Indeed, evidence has mounted as research, technology, and the science of medical review have improved over the years. AMPRA members believe that the question today is not whether these practice variations exist, but rather how we can analyze them and ultimately, broaden the medical consensus surrounding appropriate practice patterns.

Problem Identification

We believe that the identification of medical practice variations by PROs and other medical review organizations is a first step in calling attention to the potential for breaches in quality of care, inappropriate and costly use of services and for focusing the attention of physicians on the importance of analyzing these differences.

For nearly a decade, AMPRA members have collected data on practice variation in the course of conducting medical review services in the public and private sectors. Under the direction of the purchasers of our review service, our efforts have focused primarily on internal hospital utilization, through the examination of lengths of stay and ancillary service use. From our experience, there is striking evidence of significant differences in hospital stays between geographical regions and differences in ancillary service use. For example, Medicare statistics on average length of stay for inpatient care by census region is one illustration of the variation in use patterns. While in 1979 the national average length of stay was 10.4 days, the range in average length of stay by region was from 12.4 days in the Northeast to 8.6 days in the West.

With the introduction of Medicare prospective pricing - a system based on a payment per hospital admission - the review of Medicare admissions has become the central utilization objective for PROs. In addition, the employer community has begun to understand the critical importance of admission rates in determining their health benefit costs and are demanding a variety of admission review services from AMPRA members. Our findings parallel our experience with length of stay and ancillary service use: we have discovered that wide variation in admission rates can be documented across various patient populations.

Spurred by the importance of medical review of admissions, AMPRA members have been impressed by the analysis of Dr. Wennberg who has revealed through extensive research that significant variations exist in per capita admission rates. It is our hope that with the availability of appropriate funding that the small area analysis technique employed in the studies by Dr. Wennberg can be replicated by PROs and greatly assist our efforts in targetting medical review interventions on identified variations. As medical review organizations begin to enter performance based contracts in the public and private sectors, methodologies that can pinpoint variation in medical practice become an indispensable guide.

We are happy to report that small area analysis has begun to be employed by AMPRA members as a management tool in our review programs. In Utah, for example, the newly designated PRO has looked at Medicare admission rates per 1000 beneficiaries. The results display significant differences in rates of hospitalization among regions of the state -- the range was from 237 per 1000 in the lowest to 562 per 1000 in the highest. Senator, I will share with you in my oral testimony examples of similar practice variations in Wisconsin. We believe this kind of analysis by PROs should be encouraged and supported. In the future, it will be possible to compare hospital per capita admission rates by diagnosis within the Medicare population and between Medicare and other hospital patients.

Valuable as this improvement is, however, it does not go far enough. If we are to carry out comprehensive assessments of patient utilization and health outcomes, our data systems and review authority must be expanded. We must develop a more complete picture of a patient's health care utilization and health status by tracking extended care, ambulatory care and home health encounters. It is simply not enough to know rates of hospitalization to make judgements about the most efficacious medical treatment. We need to know what has happened to patients before they arrive at a hospital and what happens at significant intervals after discharge, both in terms of utilization and health status.

Toward that end, we believe that quality assurance in the Medicare program would be materially improved with the merger of Part A and Part B data systems. This would enable PROs to carry out review in the ambulatory setting where an increasing volume of Medicare services are provided, and it would facilitate the conduct of more comprehensive Medicare patient outcome studies. Then, perhaps, we could begin to make real progress toward defining appropriate and necessary care and in turn help to establish consensus on protocols within the medical profession.

Problem Verification

While documentation of practice variations represents a first step, statistics in themselves do not tell us what accounts for these differences, and more importantly, they do not explain the consequences of these differences on the outcomes of patients. As Dr. Wennberg has pointed out, such variation is usually an indicator of an absence in medical consensus respecting the appropriateness of treatment. Thus, we are confronted with the challenge of moving from documentation of practice variations to the analysis of patient outcomes. Without a careful analysis of patient outcomes, we cannot begin to solve the puzzle of whether practice variation represents the provision of excessive or incomplete health care services.

Senator Proxmire, AMPRA comes before the Appropriations Subcommittee to plea for a concerted research effort to build a systematic approach to the definition, measurement and study of patient outcomes. AMPRA wishes to acknowledge, even after ten years of medical review experience, how far we have yet to travel. We have made impressive strides in being able to identify the efficient delivery of health care services; services that can be rendered without apparent compromise in patient health status. Our analysis and review methodology, however, has yet to go far beyond identification of egregious breaches in quality of care. We have some notion of what constitutes poor quality care and little notion of what patient outcome is appropriate for a given medical treatment.

There is much room for hope, however, if we commit ourselves to an innovative research agenda. Important work is already underway in the academic and research communities, including clinical trials, the development of patient severity indices, morbidity and mortality studies, and quality of care criteria. AMPRA and its membership can play an important role in this research effort by testing methodologies in the field, conducting longitudinal studies and developing consensus groups within the peer review community.

AMPRA has taken a leadership role by formally recommending to the Health Care Financing Administration (HCFA) the use of generic screening criteria as a means of sampling for the PRO program. Those cases identified by the screens would be subject to detailed, individual review. This method provides a reasonable means of sampling the universe of hospital cases to focus review on those cases with the greatest potential for compromises in quality. We are optimistic about the extent to which this approach can be made operational by PROs around the country.

Information Feedback and Peer Review

Senator Proxmire, confirmation of variations in medical practice has the power to focus the attention of the medical community on the need for further evaluation and on the serious questions these data raise. As participants in physician-based medical review organizations, we share Dr. Wennberg's view that a powerful tool in motivating physicians to discuss practice patterns is the documentation of area-wide or regional variations in diagnostic or therapeutic approaches. We view the PRO program and other medical review programs in the public and private sectors as a means of continuing education for the practitioner that is intended to alter behavior through the development of professional consensus. Our experience time and again has indicated that practice patterns can be changed through a peer review program that provides feedback about the characteristics of medical practice -- within a hospital staff, local community, region or the nation.

All too often, peer review programs are viewed primarily as self-policing efforts that achieve results through the application of retroactive financial sanctions. It is certainly true that denial of payment for services can be very effective in behavior modification, however, we believe it often reflects a failure in the peer review program. Rather than focus attention on a single case or episode, many successful peer review programs concentrate staff energies on an educational effort designed to develop medical consensus within the physician community. Financial sanctions in peer review should be a last not a first resort.

The Search for Consensus

Developing professional consensus in medicine is a dynamic process. As medicine evolves and as we have more systematic information about the outcomes of patients, we can begin to establish criteria and standards. That, in fact, is why physicians are involved in the PRO program. There can be greater precision in the measurement of quality of care and utilization of services that allows innovation and experimentation to continue and recognizes that an individual case or cases may be the exception. Inevitably, these criteria and standards will be modified by the feedback from continuing advancements in medical science and technology and from the evaluation of alternative diagnostic and treatment modalities.

AMPRA recognizes the virtue and wisdom of incremental change. In the issues we have raised today and in the recommendations that we have made, it should be clear that we see medicine as a constantly evolving science and one which requires liberal opportunity for diversity and trial and error. At the same time that we will strongly resist any rigid, formalistic approach to the practice of medicine, we are equally adamant about the potential for narrowing the range of inappropriate diversity extant in practice today.

There will, in our view, always be variations in medical practice. We want to assure that these variations are the result of medical judgement formed by the most thorough analysis of the outcomes of treatment alternatives. To accomplish that goal, we must invest in research aimed at establishing a consensus within the medical profession respecting appropriate care. The more we learn and pass along to our peers, the more we can narrow the range of variation in practice.

These goals require the commitment of resources -- both public and private. Medicare already is providing support for quality care medical review and research, but primarily in the inpatient setting. More support is needed to bring together the Medicare data on ambulatory services so patient outcomes can be evaluated over a period of time. In the private sector, large purchasers of services (e.g. insurance companies, employers, labor organizations and Health Maintanence Organizations) need to support integrated data systems, so that population-based outcome studies can be undertaken. These are expensive activities, but more costly is the fragmented and truncated approach to the evaluation of medical care that we have today.

Senator Proxmire, we want to express our appreciation for the opportunity to present our views at this hearing. It is our hope that Congress will encourage the importance of investing in medical care evaluation methodologies and in the potential for improving the quality and cost effective delivery of medical care services available to all our citizens.

EXECUTIVE SUMMARY

1. The American Medical Peer Review Association (AMPRA), representing the newly designated Peer Review Organizations (PROs) and other physician directed medical review groups performing review services in the public and private sectors, believes that medical practice variation represents a serious challenge to the physician community that must be better understood through data analysis, research, and an active peer review program. The potential for improvements in quality of care, health care cost management, and professional consensus is too great not to expand our present energies. The documentation of medical practice variation represents the first step in such an expanded effort.

2. Historically, medical review organizations have concentrated efforts on review of hospital length of stays and ancillary service use. With the introduction of Medicare prospective payment and in response to increasing demands from the employer community, AMPRA members are now focusing attention on medical review of hospital admissions. Dr. Wennberg's small area analysis of per capita admission rates could become an important tool in assisting AMPRA members to more appropriately target their interventions on areas, institutions, and physicians that exhibit wide admission rate variation. As review organizations increasingly enter performance based contracts with public and private purchasers of care, methodologies to pinpoint practice variation become an essential management tool.

3. The identification of practice variation and medical review must extend beyond the examination of hospital based services. AMPRA recommends that PROs be given authority to review outpatient services. This is particularly important because medical review organizations must measure patient outcomes and utilization over time to help answer questions surrounding the appropriateness of treatment. An integrated data system, such as the merger of Medicare Part A and B, is an essential component of such an effort.

4. AMPRA recommends that Congress fund a concerted research effort into the definition, measurement and study of patient outcomes. This effort should include the development of generic screens, clinical trials, morbidity and mortality studies, and patient severity indices. Medical review organizations can be used as a valuable resource in this research endeavor. Only through a careful analysis of patient outcomes can we begin to measure the efficacy of medical intervention and decide whether variation reflects excessive or incomplete health care treatment.

5. The dissemination of medical practice variation data to physicians represents an important component of any peer review effort. AMPRA members have long recognized the educational value of information feedback as a tool to direct physician attention, encourage the establishment of professional consensus and, modify practice behavior when warranted. An educational effort is a far more preferable peer review process than a contentious case by case review methodology and the imposition of financial sanctions.

6. AMPRA believes that substantial progress is possible toward the refinement of criteria and standards of appropriate medical practice as more systematic information on patient outcomes is generated through research and study. It must be understood, however, that the practice of medicine is not an exact science, lending itself to a definitive or absolute standard. Professional consensus will help narrow the range of medical practice variation but never eliminate it.

Dr. Dehn. Senator, I would like to thank you for the opportunity to address your subcommittee, and I'd also like to thank Dr. Wennberg for his persistance in bringing this issue before us.

I am here appearing on behalf of the American Peer Review Association, which is an organization composed of the individual statewide peer review organizations. We have heard a lot about the peer review organizations so far today and I would like to elucidate what a peer review organization can do, and hope to do in the future.

The first time you and I had a chance to meet—you may not recall—but I was across your desk in Milwaukee and I was trying to build a case for your continued support of the PSRO Program which, as Bill Goldbeck indicated, was not heartily supported by the existing administration.

I am pleased to report to the group here present that you were supportive of that effort and that it has, [PSRO] through the years, evolved into the peer review organization.

I recall vividly that I walked into your office with considerable data and within 5 minutes you had the data in your hands and you were asking me questions about its validity and implications.

I hope you feel comfortable in doing that also today.

I brought some interesting data from Wisconsin that will further illustrate points which you have heard earlier today, and I'll be happy to answer questions about it.

I would like the opportunity to speak with the transparency projector, and I will speak loudly.

[Slide.]

The subject is serious but it doesn't have to be boring. I will try to keep you awake as the morning progresses.

Senator Proxmire. I'm glad you gave me equal billing. [Laughter.]

[Slide.]

Dr. Dehn. I would like to take you through three very brief issues. That is, the AMPRA role in problem identification; second, problem verification; and then, as Dr. Wennberg indicated, none of this works really well unless we have some sort of practitioner feedback once we identify, if in fact, these are inappropriate variations.

Very briefly—if you will think like an insurance actuary for a moment, the four elements in the variables in the overall cost of health care really are comprised of the number of enrollees, and we have relatively little opportunity as health care providers to control the number of enrollees, in the Medicare population. In fact, it is paradoxical that our successes have increased the number of enrollees and, therefore, would, in theory, increase the cost of health care.

We also have relatively little control over the benefits package. In fact, the Washington Post, over the last couple of days, indicates there is some thought about extending benefits to cover catastrophic illness, so in all likelihood, we will not save any money in the overall cost of the Medicare Program by virtue of benefit cuts.

We have then two variables over which the provider community has control, and that is in the area of utilization and the area of unit costs. You will sometimes hear the area of utilization referred to as the volume side and unit cost the cost side.

The Federal Government had the wisdom in the design of the Medicare system in the mid-sixties to recognize that these variables needed to be controlled, and there was in response to that concern, the establishment of the professional standards review organizations, which were basically—physician review organizations—to work with medical staffs to try to identify reasonable utilization, and try to change those practice patterns considered inappropriate.

A unit cost, as you probably are aware was to be controlled by health systems agencies utilizing certification of need. What happened in the last year or so—and it's pretty apparent to most everybody—is that with regard to the unit costs health systems agencies, are almost at a moot point; and that banks are de facto running our Capital Expenditure Program right now.

With regard to the utilization of the PRO Program, it has been renamed and reworked to interface with the Prospective Payment Program. The peer review organization continues to be comprised of physician organizations. But their mandate is more a compliance monitoring mandate with prospective payment.

Now, the way PRO's do that—and I disagree with Dr. Desmarais just a bit. We don't use health care financing data. Health care financing uses our data. I would now like to demonstrate examples of the data capability the PRO's can now supply in support of Dr. Wennberg's thesis.

[Slide.]

These are fresh printouts, as a matter of fact. This one happens to be dated November 14, Wednesday—at 16–18 hours. This first one happens to be nonradical hysterectomies with and without complications.

Senator, this scale that you see on your left represents numbers of admissions per 1,000 and a readout by virtue of counties, excluding a couple of counties where we could not account for migration back and forth across our border.

The mean rate of admissions for hysterectomy—you don't admit unless you take one out—is 1.2. That's the mean rate clustering. We have a maximum rate in this county.

The maximum rate is 7.9. There are 7.9 hysterectomies done per 1,000 in that county compared to a very nice cluster down here. These are real data. And it certainly is the kind of data that gets one's attention. We can talk about accounting for that in a moment.

I might say that, in all fairness, whoever those physicians are and whatever practice pattern that is extant in that particular county, it is probably not driven by fiscal incentives but, in all likelihood, is driven by practice aberrations of which Dr. Wennberg and others will talk to you about.

Note that in other counties where there is more peer review, less so-called medical ostracism either by intent or nonintent, there is more homogenuity in the practice of medical care.

[Slide.]

Let me show you a couple of others. This one happens to represent simple pneumonia and bronchitis, and it was alluded to earlier. I simply can't make heads or tails out of this one. We're all over the map here and I think it's probably reflected by the fact, as you indicated earlier, the state of the art in terms of hospitalization for simple pneumonia just hasn't reached concurrence. Now, we have heard from the National Institutes of Health, and I recognize that they are doing a good job, but simple pneumonia is pretty mundane when compared to some of the other areas of health care that are being studied by the National Institutes of Health.

My suggestion would be that we take, as Bill Goldbeck indicated, the top 10 diagnosis in the Medicare Program and study them in terms of concensus—practice concensus. I mean, maybe it isn't the kind of thing that will hit the front page but we are spending a considerable amount of money on hospitalizations for simple pneumonias all over Wisconsin with little concensus as to when to hospitalize.

There is one more DRG that came up. This happens to be, I think, second or third in terms of frequency of admissions in the Medicare Program across the country, the lens operation. There is, as you can see, in the State of Wisconsin, little concensus with regard to admission for lens operations with the mean rate of 4.8 admissions and a maximum rate of 22.8. You can see a manyfold admission difference. I believe it represents a lack of concensus.

We don't need billions of dollars to research concensus, it's just that nobody until now has taken the interest. For example, if you come out of one medical school you may admit all lens procedures. But from another medical school that happens to be a little more progressive and a little more gutsy, and you may admit very few.

What I have just demonstrated is problem identification. The PRO's have the data and we've managed to get it on 24-hour notice from Wisconsin. It's good basic data but it's not enough because it doesn't speak to outcomes. And I believe that is the critical question when evaluating variations in practice.

What's the outcome? How do we know that in the counties in Wisconsin, where patients are not admitted, that there is not an increase in morbidity and mortality? That's the kind of outcome question that begs for our kind of review.

We have the capability to get started in the PRO Program now. I would be remiss if I didn't say we probably need money to do it, but I think it's a minimal investment for enormous cost savings.

[Slide.]

Regarding the problem verification. Basically, there are three areas of health care delivery: Ambulatory care, institutional care, and extended care.

Traditionally, patients seen in a physician's office, were frequently admitted to the hospital for their care. They were discharged from the hospital and they received some sort of extended care.

We suspect we can deliver significantly increased care going directly from an ambulatory setting into an extended care setting recognizing that extended care may be continued visits to the physician's office, outpatient visits; maybe long-term care, or it may be community-based services.

The question is: Are we compromising quality care and outcome by avoiding the increased, use of traditional institutions? That's the critical question. If we can show that alternative delivery does not cause any compromise of quality, then I think we will have the opportunity to avoid spending the kind of money we are on institutionalization.

That's the question we are all hopeful we can answer. It provides medical concensus and outcome studies. We think that AMPRA—American Medical Peer Review, and the PRO's have the data—at least, the beginning of the data required to establish concensus and evaluate outcomes.

We have a network set up to provide the kind of accountability to the public for the changes in health care that are being stimulated by the introduction of the prospective payment system.

[Slide.]

We, therefore, believe that in the review area, since our mandate now extends only to the acute Medicare sector, we expand our activities to review all patients and all sectors, ambulatory, acute, and extended care.

[Slide.]

Finally, practitioner feedback could occur, we believe, through the PRO Program because we have a national network with a local base. Every State has a PRO already funded by the Federal Government but I think inadequately to answer the scope of the questions that we have discussed thus far.

We are represented in all geographic areas by law. Senator Durenberger made sure that would occur. We are at any given time operative in all hospitals. Tomorrow morning, we can tell you across the country who's in what hospital, why, and for what reason. And we, as I demonstrated earlier, have the logistical capability to do it.

Two pieces of the puzzle that are missing are review in the ambulatory setting and review of the outcomes in the extended care setting, and that's going to take some dollars. It is only through comprehensive review that the questions posed by Dr. Wennberg's model can be answered.

Senator, I appreciate the opportunity to deliver my presentation.

Senator PROXMIRE. Thank you, Dr. Dehn, for an excellent presentation. I certainly appreciate it very much.

STATEMENT OF DR. JAMES E. DAVIS, M.D., AMERICAN MEDICAL ASSOCIATION

PREPARED STATEMENT

Senator PROXMIRE. Next, we will hear from Dr. James Davis, speaker of the house of delegates of the American Medical Association. Delighted you could be here, Dr. Davis. Go right ahead.

[The statement follows:]

STATEMENT OF DR. JAMES E. DAVIS

My name is James E. Davis, M.D., and I am a physician in the practice of General Surgery in Durham, North Carolina. I am also the Speaker of the House of Delegates of the American Medical Association. Accompanying me is Harry N. Peterson, Director of the AMA's Division of Legislative Activities. The American Medical Association is pleased to have this opportunity to present its views on the subject of practice variations in the delivery of health care services.

Variations do indeed exist in how treatment is provided for individual patients with similar conditions. In light of the individual nature of medical care coupled with variations in resources and referral patterns, a degree of variation in the provision of health care is normal. Practice variations can arise and provision of care may appropriately vary based on the needs of the individual receiving care, the resources at hand, and the mode of treatment agreed to in the provision of that care. It is also important to realize that the decision to provide a health care service is a decision shared between the patient and physician.

Each patient presents the physician with a unique set of circumstances -- medical, social, occupational and others -- that the physician must evaluate along with the various treatment choices available. In many cases, this evaluation may be confounded by the lack of absolute certainty about the outcome of medical treatment. In addition, for every given diagnosis there may be more than one treatment that would achieve a desired result that is acceptable within the medical community and to the patient. It is important to recognize that there is still a significant element of "art" in the practice of medicine that comes to bear in every patient evaluation. Like others, the AMA believes efforts directed toward elimination of variations in providing patient care must not result in a reduction in the quality of care by failing to recognize differences between patients and the unique circumstances of providing medical care to each individual patient.

The AMA is concerned about unjustifiable extremes at either end of the health care spectrum. Drastic variations in how patient care is provided can be an indicator of either the provision of inappropriate care or failure to provide appropriate care. Some analysts of this phenomenon may believe that this fact, on its face, automatically signals serious problems in our system of providing health care services. While such is not necessarily the case, the AMA does believe wide variations should be examined closely. We believe that this hearing, Mr. Chairman, can serve a beneficial purpose if judgments founded on proper studies are pursued and if all concerned look at these variations in the delivery of patient care with an eye toward facilitating the delivery of the appropriate level of care to meet the individual needs of patients.

BACKGROUND

The existence of variations in the delivery of health care services is not a new phenomenon. It has long been recognized that medicine, while based on a broad scientific foundation, still retains significant elements of choice and uncertainty.

The American Medical Association examined the issue of variations in the delivery of health care services in detail during 1978 when it considered the recommendations from the report of the National Commission on the Cost of Medical Care.* In response to Recommendation #14, relating to incentives to provide appropriate care, the AMA adopted the following policy in 1978:

> It is impossible to establish specific hard and fast criteria that could be applied as prima facie evidence of "inappropriateness" of care because of the many patient variables -- not only medical, but psycho-

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*The AMA was instrumental in the development and operation of the National Commission on the Cost of Medical Care which issued its report in 1978 containing 48 recommendations. These recommendations have served as a foundation for AMA activities related to cost-effectiveness. These activities range from strengthening price consciousness and private sector cost containment initiatives to cost containment measures within medical practice.

> logical and social -- that enter into every medical decision. It is generally recognized -- not only by physicians but by others who have studied this complex issue -- that most medical decisions operate along a range of acceptable treatment alternatives, that such alternatives can be established only by physicians, and that considerable disagreement can emerge among physicians of the same specialty and general level of competence treating similar cases.
>
> This in no way is intended to downgrade the value of any program which enables physicians to compare their practice patterns with those of their peers, nor the use of sample or screening criteria of appropriateness to assist physicians in isolating the practice behaviors which can benefit from such comparisons. (Council on Medical Service Report C, I-78)

This statement still reflects the basic position of the American Medical Association, and the Association has continued its support for efforts to identify variations in the delivery of health care services that could be appropriately modified. While the Association has maintained and is furthering its efforts to aid physicians in addressing inappropriate variations in medical practice, the issue has again been a subject of significant attention due to speculations that limiting practice variables may result in substantial cost savings.

In an article recently published in Health Affairs by John E. Wennberg, M.D., Dr. Wennberg indicates that diagnoses with low variation reflect conditions where there is little choice under current recognized medical practice. High variations result when practice options are multiple. His article goes on to state:

> The variation phenomenon appears to be a worldwide phenomenon, not explained by incentives associated with fee-for-service medicine. The pattern of variation for common procedures is similar among fee-for-service hospital markets in Iowa, Maine, Massachusetts, Rhode Island, and Vermont; among health maintenance organizations in the United States; and among the health care regions in Canada, England, and Norway, even though obvious differences exist in the supply of surgeons, the organization and financing of services, and in the cultural and demographic characteristics of hospital market area residents. There is one common factor: physicians in each of these areas of the world read the same medical literature, participate in the same scientific traditions, and share the same scientific uncertainties concerning the value of certain procedures.

Dr. Wennberg goes on to offer a three-part proposal which he believes can have success in "dealing with the health care outcome and cost-containment implications of the medical practice variation phenomenon." Dr. Wennberg's proposal, which recognizes the validity of variation in the practice of medicine, calls for:

- o Closer monitoring of medical practice in local hospital markets to be undertaken using epidemiologic techniques to obtain population-based measures of resource allocation, service use, and outcomes of health care. Information obtained from this monitoring should be made available on a continuous basis to interested parties.
- o The medical community and qualified researchers to work together to address unanswered questions concerning the effectiveness of many common therapeutic interventions. In this analysis, the overriding question should not be the cost of the intervention, but whether such interventions have beneficial outcomes and are relatively safe.
- o The medical community to work to reduce the use of hospitals for marginally indicated conditions, as determined from the monitoring of medical practice.

COMMENTS

The AMA concurs with the approach Dr. Wennberg has proposed. Dr. Wennberg's proposal partially results from his work in a project developed and operated by the Maine Medical Association with funding from the Commonwealth and Robert Woods Johnson Foundations. Dr Wennberg's work in Iowa has been funded by a coalition involving the Iowa Medical Society and the state hospital association. In placing his proposal in operation, Dr. Wennberg has worked closely with local medical and hospital associations to bring together individual health care practitioners and representatives of institutions in which they practice to facilitate study of utilization and resource allocation profiles. Dr. Wennberg has also worked with the Vermont Medical Society to aid it in identifying variations in patient care that appropriately could be limited.

The American Medical Association applauds the work of Dr. Wennberg, and recognizes three significant strengths of the activity he is encouraging:

1. The Wennberg proposal depends primarily on local and regional initiatives to define the community's and region's utilization issues and to develop local problem-solving approaches to address those issues;
2. The use and reliance on peer influence among physicians to bring about changes in practice patterns is the approach most likely to succeed; and
3. This primary approach is aimed at quality of care. The possibility of achieving economies through reduced utilization is a secondary although highly beneficial result.

The foregoing types of activities promoted by Dr. Wennberg are consistent with the Association's support of physician-sponsored peer review and the initiatives undertaken by many state medical societies to take an active role in Medicare's recently initiated Peer Review Organization program. We believe that the activities are properly focused toward education and voluntary practice modification rather than intrusive governmental intervention. A centralized cookbook approach for standardizing medical practice based upon averages should be avoided.

CURRENT AMA ACTIVITIES

The American Medical Association recognizes that variations in practice patterns constitute a challenge that needs to be addressed aggressively. The Association supports studies, including the ongoing RAND-UCLA Health Services Utilization Study, that are designed to contribute to a better understanding of health services utilization. The AMA is also undertaking efforts to eliminate inappropriate variations in medical practice. The Association has determined that there are a number of core factors that must individually be examined in analyzing existing variations in providing patient care. These core factors include:

- the presence within a given service area of varying levels of health resources;
- differences in physician practice styles that result from scientific uncertainties concerning the value of certain procedures; and

- individual differences among physicians that are based on such factors as education, specialty training, involvement with teaching, and patient case-mix.

The American Medical Association has underway several projects, discussed below, aimed at providing practicing physicians with information to aid them in making appropriate patient care decisions. We believe that these efforts are consistent with Dr. Wennberg's proposal.

Medical Education

A key element in addressing inappropriate variations in health care practice is to educate future physicians in this country of the value of cost-effectiveness in providing quality health care. The provision of appropriate high quality care in a cost-effective way is facilitated by physicians educated and sensitized to cost considerations.

The AMA adopted Recommendation 38 from the National Commission on the Cost of Medical Care in 1978 calling for:

> Medical, dental and osteopathic schools (to) develop curricula designed to expose students to the economics of the care they deliver, the nature of resource scarcity, and a variety of health care settings.

Since the adoption of this policy, virtually every United States medical school has incorporated economic issues into its curriculum. The 127 medical schools in the country have approached the goal of incorporating cost containment and other economic issues into their curriculum in the following manner:

- Four schools have separate required courses in cost containment;
- Seventy-eight schools include material on cost containment in other required courses;
- Seventeen schools have separate elective courses on cost containment; and
- Thirty-two schools include material on cost containment in other elective courses.

This activity will aid the medical community in becoming increasingly aware of the cost effectiveness of many common therapeutic interventions. It is expected that emphasis on the provision of cost effective care will lead to an early choice of the most economic and effective treatment mode, and that this will tend to limit variations in patient care. Also, this type of educational activity will affect directly one of the core factors of variations in medical practice: physician education.

The Diagnostic and Therapeutic Technology Assessment Project

The AMA inaugurated the Diagnostic and Therapeutic Technology Assessment Project (DATTA) in 1982 in response to concerns over the safety, effectiveness, and indications for use for the rapidly growing arsenal of medical technologies. This project is designed to aid the AMA in responding to concerns about the relative merits of new and existing technologies in medical practice, education, and research. Through the publication of DATTA evaluations, the AMA is working to clarify questions relating to the efficacy of new and existing medical technology and procedures. The project also will assist in determining the issues of obsolescence of existing technology. This activity directly addresses questions of scientific uncertainties that can lead to practice variations. (Background documents that describe the DATTA project and its operation in greater detail and set forth the status of DATTA evaluations are attached as Appendix I.)

Since the initiation of the DATTA program in late 1982, this project has published opinions on 22 subjects; a dozen more subjects are currently under review. The results of all DATTA reviews are published in a special section of the Journal of the American Medical Association (JAMA). This activity is an important component in alerting physicians and other health care providers to accepted practice modes and changes in practice. This activity is a continuing effort that should guide physician decisions in medical care for many years to come. DATTA should have a significant long-term impact on assuring appropriate patient care throughout the country.

Cost Effectiveness Network

The AMA, in cooperation with the American Hospital Association and the Federation of American Hospitals, has established a network of 85 hospitals throughout the country along with their medical staffs that is taking part in experiments to evaluate a variety of cost effectiveness projects. The first project implemented within this network, a protocol for holding economic grand rounds, has a potential to limit inappropriate practice variations. (An implementation guide for economic grand rounds has been published and is generally available. A copy of this implementation guide is attached to this statement as Appendix II.) The purpose of the economic grand rounds program is to enhance physician awareness of the cost and necessity of services ordered. The four operational goals of this program are:

- To encourage practicing physicians to reflect on their practice patterns in the context of cost effectiveness issues;
- To reinforce clinical behavior which is directed toward the cost effective delivery of high quality medical care;
- To change physician behavior where appropriate to reflect more cost effective delivery of high quality care; and
- To stimulate additional subsequent activities geared to foster the cost effective delivery of medical care.

The second project, a study designed to improve the efficiency of the utilization of respiratory care services, currently being analyzed through the cost effectiveness network should also have a long-term impact on health care variations. When this second study is completed, it too will be made generally available.

Health Care Coalitions

The American Medical Association has recognized the appropriate role of many private sector interests in holding down rising health care costs and in effect to limit inappropriate variations in the delivery of health care services. The AMA started working with state and county medical societies in 1979 in the development of community-based health care coalitions. These coalitions work to bring together physicians, business and labor representatives, hospital management, and insurors to provide local forums to seek ways to contain costs, maintain accessibility, maintain high standards of health care, and to limit inappropriate variations in the delivery of health care services.

Currently, 31 state medical societies and 133 of the major metropolitan county medical societies participate in a coalition. This represents a substantial increase over just two years ago when only 14 state medical societies and 47 of the metropolitan county medical societies participated in such a coalition. The significance of this increase in coalition activity is reflected in the fact that these coalitions have had success in limiting variations in medical practice. This is illustrated by examples of activities in two separate areas of the country, Birmingham, Alabama and Toledo, Ohio, where health care coalitions have successfully identified practice patterns in substantial variance to the rest of the community, and where physician-to-physician communication has resulted in a limitation of this variance.

The AMA believes that such activity by health care coalitions is consistent with the three points of Dr. Wennberg's proposal and that such activity in identifying variations in the provision of patient care services can produce beneficial modifications. The Association will continue encouraging physician participation in health care coalitions and expects that this activity will have continued success in limiting variations in the future.

FUTURE AMA ACTIVITIES

In October, the AMA Board of Trustees approved a report that sets forth future activities of the AMA that are planned to facilitate local physician efforts to deal with utilization variations. This report will be considered by the AMA's House of Delegates at its December 1984 meeting. This plan calls on the Association to initiate the following activities:

- Disseminate on a broad basis a series of utilization reports that will provide the AMA Federation (national specialty medical societies, state, county, and major metropolitan medical societies) with regional data on hospital lengths of stay and admissions, and that will report on emerging trends in the utilization of medical services;

- Publish and distribute brief case studies on medical society initiatives to involve practicing physicians in the reassessment and alteration of utilization patterns; and
- Publish information that will provide readers with a review and analysis of selected studies conducted by peer review organizations and others that assess state and local utilization variations for specific procedures and diagnoses.

In addition, the Association is currently in the process of compiling information on activities undertaken by state medical societies and other organizations to analyze geographic variations in the delivery of health care services.

CONCLUSION

In dealing with the issue of variations in the delivery of health care services, it is important to keep in mind that many variations in and of themselves are not necessarily bad. Variations in the delivery of health care services should not be viewed solely as a potential area for cost savings. Individuals and their individual needs should not be treated based on a "statistical average."

The Association has made a substantial commitment to work toward the goal of eliminating inappropriate variations in the delivery of health care services while at the same time striving to preserve the quality of health care services that the American people both deserve and receive.

The AMA believes that the methodology to examine variations in the delivery of health care services that are expounded by Dr. Wennberg and that are being undertaken by the AMA and others on a voluntary basis offer the best hope for achieving the tandem goal of economic savings and an assurance of quality health care for the American people.

Dr. DAVIS. Thank you very much, Mr. Chairman. The American Medical Association is very pleased to present its views on the subject of practice variation. I am a physician in the practice of general surgery in Durham, NC, and with me today is Harry N. Peterson, director of the AMA's division of legislative activities.

Variations do indeed exist in how treatment is provided for individual patients with similar conditions. In light of the individual nature of medical care coupled with variations in resources and referral patterns, a degree of variation in the provision of health care is normal and it recognizes the fact that the provision of care may properly differ based on the needs of the individual receiving that care, the resources available and the mode of treatment agreed to in the provision of that care.

The AMA is concerned about unjustifiable extremes at either end of the health care spectrum. Drastic variations in how patient care is provided can be an indicator of, as has already been indicated, of either the provision of inappropriate care or failure to provide appropriate care.

We believe that this hearing, Mr. Chairman, can serve a beneficial purpose if judgments founded on proper studies are pursued and if all concerned look at these variations in the delivery of patient care with an eye toward facilitating the delivery of the appropriate level of care to meet the individual needs of patients.

The existence of variations in the delivery of health care services is not a new phenomenon. The AMA examined the issue of variations in the delivery of health care services in detail during 1978 when it considered the recommendation of the report of the National Commission on the Cost of Medical Care. While the association has maintained and is furthering its efforts to aid physicians in addressing inappropriate variations in medical practice, the issue has again become a subject of significant attention due to speculations that limiting practice variables may result in substantial cost savings.

Dr. Wennberg indicates that diagnoses with low variation reflect conditions where there is little choice under current recognized medical practice. High variations result when practice options are multiple. He has also pointed out that the variation phenomenon appears to be a worldwide phenomenon, not explained by incentives associated with fee-for-service medicine.

Dr. Wennberg also offers a proposal which he believes can have success in dealing with health care outcome and cost containment implications of the medical practice variation phenomenon. It is also worth noting, Mr. Chairman, that Dr. Wennberg's proposal recognizes the validity of variation in the practice of medicine.

The AMA concurs with the approach that Dr. Wennberg has proposed. His proposal partially results from his work in a project developed and operated by the Maine Medical Association with funding from the commonwealth fund and the Robert Wood Johnson Foundation.

Dr. Wennberg's work in Iowa has been funded by a coalition involving the State Medical Society and the State Hospital Association.

Dr. Wennberg has also worked with the Vermont Medical Society to aid it in identifying variations in patient care that appropriately could be limited.

The AMA applauds the work of Dr. Wennberg, and we recognize three significant strengths to the activity he is encouraging: The dependence on local and regional initiatives; the use and reliance on peer influence among physicians to bring about changes; and the primary focus on quality of care.

The American Medical Association recognizes that variations in practice patterns constitute a challenge that needs to be addressed aggressively.

The association supports studies, including the ongoing Rand–UCLA health services utilization study, that are designed to contribute to a better understanding of health services utilization.

The AMA is also undertaking efforts to eliminate inappropriate variations in medical practice. We have underway several projects aimed at providing practicing physicians with information to aid them in making appropriate patient care decisions.

In the area of medical education, the provision of appropriate high quality care in a cost-effective way is facilitated by physicians educated and sensitized to cost considerations.

The AMA adopted recommendation 38 from the National Commission on the Cost of Medical Care in 1978, calling for medical, dental, and osteopathic schools to develop curricula designed to expose students to the economics of the care they deliver, the nature of resource scarcity, and a variety of health care settings.

Since the adoption of this policy, virtually every U.S. medical school has incorporated economic issues into their curriculum. It is expected that this emphasis on the provision of cost-effective care will lead to an early choice of the most economic and effective treatment mode, and this will tend to limit variations in patient care.

The AMA inaugurated their diagnostic and therapeutic technology assessment project—DATTA—in 1982 in response to concerns over the safety, effectiveness, indications for use, and cost associated with the rapidly growing arsenal of medical technologies. Through the publication of DATTA evaluations, the AMA is working to clarify questions relating to the efficacy of new and existing medical technology and procedures. This activity directly addresses questions of scientific uncertainties that can lead to practice variations.

Since the beginning of the DATTA Program in late 1982, this project has published opinions on 22 subjects, and a dozen more subjects are currently under review. The results of all DATTA reviews are published in a special section of the Journal of the American Medical Association [JAMA].

This activity is an important component in alerting physicians and other health care providers to accepted practice modes and changes in practice. This activity is a continuing effort that should guide physician decisions in medical care for many years to come. It should have a significant long-term impact on assuring appropriate patient care throughout the country.

The AMA, in cooperation with the American Hospital Association and the Federation of American Hospitals, has established a network of 85 hospitals throughout the country and their medical staffs that are taking part in experiments to evaluate a variety of cost effectiveness projects.

The first project implemented within this network, a protocol for holding economic grand rounds, has a direct potential to limit inappropriate practice variations. The purpose of the Economic Grand Rounds Program is to enhance physician awareness of the cost and necessity of services they order.

The second project, a study designed to improve the efficiency of the utilization of respiratory care services, currently being analyzed through the cost effectiveness network, should also have a long-term impact on health care variations.

The AMA has recognized the appropriate role of many private sector interests in holding down rising health care costs and, in effect, to limit inappropriate variations in the delivery of health care services.

The AMA started working with State and county medical societies in 1979 in the development of community-based health care coalitions. These coalitions work to bring together physicians, business, and labor representatives, hospital management, and insurors to provide local forums to seek ways to contain costs, maintain accessibility, maintain high standards of health care, and to limit inappropriate variations in the delivery of care. These coalitions have had success in limiting variations in medical practice.

This is illustrated by examples of activities in two separate areas of the country—Birmingham, AL, and Toledo, OH, where health care coalitions have successfully identified practice patterns and substantial variance with the rest of the community and where physician-to-physician communication has resulted in a limitation of this variance.

In October, the American Medical Association Board of Trustees approved a report that sets forth future activities of the AMA that are planned to facilitate local physician efforts to deal with the utilization variations. This plan calls on the association to initiate activities to disseminate to our federation a series of utilization reports, to provide regional data on hospital lengths of stay and admissions, as well as emerging trends in the utilization of services; to publish and distribute information on medical society initiatives to involve practicing physicians in the reassessment and alteration of utilization patterns; and publish information on activities of peer review organizations and others that assess State and local utilization variations for specific procedures and diagnoses.

In conclusion, Mr. Chairman, it is important to keep in mind that variations, in and of themselves, are not necessarily bad. Variations in the delivery of health care services should not be viewed solely as a potential area of cost savings. Individuals and their individual needs should not be treated based on a statistical average.

The association has made a substantial commitment to work toward the goal of eliminating inappropriate variations in the delivery of health care services while at the same time striving to preserve the quality of health care services that the American people both deserve and receive.

The American Medical Association believes that the methodology to examine the variations in the delivery of health care services that are being undertaken by the AMA and others on a voluntary basis offer the best hope for achieving the tandem goal of economic savings and an assurance of quality health care for the American people.

Thank you, Mr. Chairman.

Senator PROXMIRE. Thank you very much, Dr. Davis.

STATEMENT OF DR. CHARLES KIESLER, AMERICAN PSYCHOLOGICAL ASSOCIATION

PREPARED STATEMENT

Senator PROXMIRE. Our final testimony today will be from Dr. Charles Kiesler, dean of the College of Humanities and Social Sciences at Carnegie Mellon University, representing the American Psychological Association.

Dr. Kiesler will focus on practice variations in the mental health field.

Very glad to have you with us, Dr. Kiesler. You may proceed.

[The statement follows:]

Statement of Dr. Charles A. Kiesler

Mr. Chairman, Members of the Committee, my name is Charles A. Kiesler, PhD. I am currently Bingham Professor of Psychology and Dean of the College of Humanities and Social Sciences of Carnegie-Mellon University. In January, I will become Provost of Vanderbilt University, and Acting Director of the the Vanderbilt Institute of Public Policy Studies. I was formerly Executive Officer of the American Psychological Association, editor of the *American Psychologist*, and founding Vice President of the Council of Applied Social Research. I am the incoming chair of the APA Board of Social and Ethical Responsibility in Psychology, and chair of the APA Committee on Policy Implementation. For several years, I was a member of the oversight committee of the National Science Foundation, which drafted portions of the President's Annual Report to the Congress on Science and Technology.

For over five years, my research interests have concentrated on national mental health policy, and particularly in re-analyzing the national data base regarding mental hospitalization. I am currently involved in research in comparing the treatment of mental disorders in general hospitals that do and do not have psychiatric units. With a grant from the National Institute of Mental Health, we are re-analyzing several large national surveys of the National Center for Health Statistics (and NIMH) and completing a study of psychiatric admissions in eight Pittsburgh area hospitals, four with and four without psychiatric units. Much of my work in this area has been in collaboration with Amy Sibulkin, Ph.D.

In our re-analysis of the national data, we find that there are a number of misconceptions, among mental health professionals and the general public, regarding mental hospitalization in the United States today. For example, our re-analysis of these data lead to the following conclusions.

1. While it is commonly believed that we are putting fewer people into mental hospitals than ever before, we find that the rate of episodic hospitalization for mental disorder has been rising at a fairly rapid rate over the last fifteen years. All of the increase in rate is due to treatment in general hospitals without psychiatric units. Today, forty percent of all inpatient episodes for mental disorders occur in such hospitals. My calculations lead me to believe that the direct charges for psychiatric care in general hospitals, both those with and those without psychiatric units, approaches $6 billion per year.

2. Many people believe that mental hospitalization is a fairly trivial part of overall national expenditures regarding hospital treatment. I have rarely seen hospitalization for mental disorders mentioned in discussions of hospital cost containment, for example. However, our own analyses show that 25% of all hospital inpatient days in the United States are for mental disorders. This figure has been going down: thirty years ago it was over 50%. However, it still represents a large and substantial proportion of total hospital care in the United States.

3. Many people believe, and this includes the general public and mental health professionals, that mental hospitalization is the most effective treatment for the people who utilize the service. That is, the few people we are hospitalizing are correctly placed, because no alternative exists to treat them more effectively.

The data seem clear on this last issue: Traditional inpatient care for mental disorders is neither the most effective nor the most cost-effective method of treatment. Recently there have been three major reviews of the evidence on this issue (my own among them). These reviews concentrated on studies with random assignment. That is, patients with serious mental disorders were brought to a hospital, and were randomly assigned either to enter the hospital for treatment, or to be assigned instead to another form of treatment outside of a hospital. My own review located ten such studies, and I have since located four others. These studies were independently carried out by a number of researchers around the country over the last twenty years. The alternative treatments varied a great deal, but concentrated on psychological and social interventions, usually with some medication. In no case has mental hospitalization produced better treatment outcomes than any alternative care. In every study, differences favored the alternative care rather than mental hospitalization, in terms of psychiatric symptomatology, ratings by family, probability of being able to locate or maintain a job, subsequent hospitalization, and the like. In every case where there has been systematic calculation, the alternative care was less expensive. In one very careful study carried out by Blue Cross/Blue Shield, the alternative treatment was substantially more effective and 40% cheaper.

Our national practice of increasing mental hospitalization flies in the face of available scientific evidence. There are a number of reasons, however, which inhibit a change in practice.

1. The public attitudes about people with mental disorders continue to be extremely negative. One survey of the stigma attached to people with various conditions found that people with mental disorders were rated the least favorable of 17 groups.
2. We have both a public and a professional acceptance of what I refer to as the hospital syllogism. It goes like this: We treat people with serious medical disorders in hospitals; mental disorders are serious medical disorders; therefore mental disorders should be treated in hospitals. Although it does not fit with the available evidence, this syllogism has a certain intuitive compelling quality to many people.
3. In many cases, a family simply cannot handle a seriously disturbed mental patient, and family burnout is a typical phenomenon. When a family has no other place to put a disturbed family member, they look to the hospital for help.
4. It is clearly easier for the attending physician to treat a number of patients in the hospital than at almost any other site.

There are two other compelling reasons for continuing mental hospitalization. One is that there is simply a lack of appropriate funding for alternative care, whether for the non-institutionalized patient or for the de-institutionalized patient. Programs for public funding have largely failed to use the data gained from various alternative treatment programs around the country. Lastly, there continue to be strong financial disincentives for outpatient treatment of serious mental disorders. Both public and private insurance programs offer inpatient care for mental disorders at no cost to the patient, but demand substantial co-payment for outpatient care.

The financial disincentives produce two pressures on the family and the patient to trust inpatient care. One is that it costs less, and this is an important consideration in any treatment. Second, there is a clear message to the patient and the family that if inpatient care is free, and alternative care is not, that inpatient care must somehow be better.

A good example of how alternative care programs might be developed is provided by Drs. Leonard Stein and Mary Ann Test at the Mendota Mental Health Institute in Wisconsin (which also provided one of the ten studies I mentioned above). In what is called the Community Living Program, the theraputic staff assist the patients in their homes and neighborhoods and train them in such daily living activities as doing laundry, shopping, cooking, budgeting, and the use of public transportation. Under certain circumstances, patients are hospitalized for brief periods of time in crises. Medication is used sparingly. The Community Living Program has been demonstrated to be effective and has been copied elsewhere in the state of Wisconsin. Indeed, the state of Wisconsin is one of the few states that has been able to significantly lower both the inpatient admission rate and cost per episode of care.

A critical element in the Wisconsin example is the direct attempt to reduce the incentives for inpatient treatment. This is accomplished by placing all public funds for mental health treatment in one central source (the county). This produces strong incentives for promoting the most cost effective treatment, since both the costs and the savings are seen by the same administrative unit.

This example has implications for national policy changes. For example, Medicaid is the largest single payer for mental health care in the country, and that fact deserves acknowledgement by the Congress. Most costs represent inpatient care, including nursing homes for the most part. For example, under the Carter administration, the federal government was unintentionally spending more on inpatient care every year through Medicaid than it spent on the whole Community Mental Health Center system.

All of these considerations lead me to suggest three major approaches to changes in federal policy which should enhance both the effectiveness and cost effectiveness of mental health care in the United States.

1. Develop a better national data base, particularly regarding the outcomes of treatments. This demands research in which individual patients are tracked across time.
2. We need to better understand the effects of different systems of service delivery, and the effects of health insurance coverage (both public and private) on utilization of services.

3. Promote the use of the Wisconsin experience, and that of other places, testing the effects of channeling all public funds to a single adminstrative unit such as the county. Organize demonstration projects, research and conferences promoting cooperation between the public and private sectors.

There has been a great deal of public outcry in recent years about treatment of people with mental disorders, including the homeless and those in nursing homes. I have suggested several factors underlying the public crisis and for taking immediate action. We need to better understand why hospital inpatient rates have increased, why the problems of the homeless remain unsolved, and why the number of people in nursing homes with diagnosed mental disorders has increased so sharply. For a group which accounts for 25% of all inpatient hospital days in the United States, the problems of the mentally disturbed have been remarkably kept in the closet. The time for serious national discussion and the consideration of dramatic changes in public policy has arrived.

I thank you for inviting me here today. I would be pleased to answer questions.

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Public and Professional Myths About Mental Hospitalization

An Empirical Reassessment of Policy-Related Beliefs

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ABSTRACT: *This article focuses on national data relevant to the following questions: (a) To what extent is mental hospitalization effective? (b) How many people are hospitalized for mental disorders yearly? (c) Has the rate of mental hospitalization been stable or rising in recent years? (d) What is the length of an inpatient episode and is it changing? (e) Has the rate of rehospitalization been rising? (f) What proportion of total hospital days are for mental disorders? The article suggests that a set of beliefs or myths about mental hospitalization exists that is not supported by national data. The national data base on mental hospitalization is surprisingly sparse, but available data suggest the following: The rate of mental hospitalization is increasing but the place in which it occurs has changed dramatically. The length of hospital stay has been stable in most sites over the last decade; a substantial decrease has occurred in two sites, but they handle only 20% of the episodes. At least several treatment modes exist that appear to be more effective and less expensive than hospitalization. There is little evidence to support the notion of a "revolving door." Mental hospitalization is a substantial national issue: 25% of all hospital days in the United States are for mental disorders. Issues related to the need for new public policy and the difficulties in changing current policies are discussed.*

I have distinguished before between de jure and de facto national mental health policy (Kiesler, 1980). The de jure policy is that which we legislatively and collectively intend to carry out in the name of mental health. The de facto policy is that which occurs, regardless of public intent or agreement.

In the case of mental health, the distinctions between de jure and de facto policies are very important. Our national de jure policy is the development of outpatient care and deinstitutionalization. The policy of developing outpatient care, at least, has been quite successfully implemented. The National Institute of Mental Health (NIMH; 1976) reported that outpatient care had increased from 379,000 clinical episodes in 1955 to 4.6 million in 1975, a twelvefold increase over the course of 20 years. The centerpiece of this effort has been the community mental health center system, which had grown to 600 regional centers at last report. The extent to which the current executive policy (decreasing federal funds for such services and delivering the remainder of the funds in block grants to the states) will undercut this de jure policy is still unclear, but will surely be considerable. Deinstitutionalization has been more controversial, although many feel it has been clinically successful (cf. Bachrach, 1976).

However, our national de facto policy in mental health is hospitalization. NIMH reports that over 70% of mental health money is spent on hospitalization. Partly this de facto policy is due to inappropriate insurance mechanisms (cf. Kiesler, 1981a, 1981b). As the task panel on deinstitutionalization, rehabilitation, and long-term care of the President's Commission on Mental Health (Platman, 1978) said, "the level and type of care given to the chronically mentally disabled is frequently based on what services are fundable and not what services are needed or appropriate" (p. 369). Medicare, Medicaid, Blue Cross–Blue Shield, and other private insurance plans provide disincentives for outpatient care. Copayments, limits of visits, and the like for outpatient care are typically contrasted with complete coverage for inpatient care. Because of differences in the net cost to the patient, often the attending professional, the patient, and the patient's family have little choice but to choose the

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less expensive treatment. The net cost to the patient may be less for such insured inpatient care, but the total cost to the public is clearly more. Through such disincentives, the national policy of outpatient care is undercut by the practice of offering incentives for inpatient care. As a result of the paradox of this clash between policy and practice, Medicaid is quite unintentionally the nation's largest single mental health program, accounting for over $4 billion for mental health services in 1977 alone.

In the financial sense, mental hospitalization dominates our public policy. If the practice dominates the policy, it should also be a magnet for policy research. That is, policy research should focus on mental hospitalization and the de facto system that supports it. However, the policy and evaluation research literature has not given great attention to this topic. Issues of the sociology of science are very complex, but one set of inhibiting circumstances is related to the myths and stereotypes we hold about mental hospitalization. Another is the lack of integrative work across divergent aspects of mental hospitalization.

I have described the myths of mental health policy as implicit assumptions we make about what mental health and mental illness are, what the most effective treatments are given the current status of the art, and which "causes" of mental illness science will ultimately find. Our collective approach to mental health is determined by such assumptions, but the assumptions are held implicitly and seldom challenged. Partly because they are implicit, these views inhibit the effective use of knowledge and channel current and future research.

Implicit assumptions that guide a field do inhibit a continuing process of self-examination and criticism. "When our implicit assumptions are left unexamined for decades, they take on the properties of professional or scientific myths," (Kiesler, 1981a, p. 202).

The concept of stereotypes—prejudgments of what ought to be—is also applicable. One professional stereotype taken seriously is the following syllogism: serious illnesses are treated in hospitals, mental disorders can be serious illnesses, therefore mental disorders ought to be treated in mental hospitals.

I do not argue that such myths and stereotypes are ipso facto false. Indeed, many have a rather compelling intellectual quality. Rather, I feel that myths should not have a special scientific status. They should be regarded as any other scientific assumptions or hypotheses: discussed openly, tested where possible, and evaluated in light of the current state of scientific knowledge.

This article focuses on several myths and stereotypes about mental hospitalization that seem, in my experience, to be rather common among professionals and laypersons alike. Whether one should regard these as myths (or even correct beliefs) is not directly relevant to what follows. Certainly I have heard each asserted as true by professionals, by members of Congress, and by laypersons. I do not argue a priori for their truth or popularity, but only that they should be openly discussed and empirically assessed. An attempt to evaluate and integrate the empirical data on each in a single article seems worthwhile. These beliefs include the following:

1. We are putting fewer people into mental hospitals.
2. Mental hospital stays are much shorter than they used to be, and continue to decrease.
3. A "revolving door" exists such that people are staying in mental hospitals for shorter periods but are more likely to return.
4. Mental hospitalization is effective treatment for the people utilizing the service. That is, the few people we are hospitalizing are correctly placed because no alternative exists to treat them more effectively.
5. Because of the small numbers involved, mental hospitalization is a fairly trivial part of overall national policy on hospitals. (For example, I have never seen mental hospitals mentioned in discussions of the "hot" topic of hospital cost-containment.)

The national data on these issues are difficult to come by. One must often piece together a puzzle with bits of information from various sources. No single agency or source tracks data broadly enough to address any of these questions completely. This article describes recent research by myself and others to assess the scientific information on these five assertions. We have accumulated what is available relevant to these questions, including rather significant but previously unpublished data.

This article focuses on the following questions:

1. Is mental hospitalization efficacious and cost-effective?
2. How many people are hospitalized for mental disorders? What is the rate of hospitalization (per 100,000 population)?
3. How long do they stay?
4. Has the rate of rehospitalization been rising?
5. What proportion of total hospital days are for mental disorders?

Definitional Issues

In discussions of mental hospitalization, confusion often results from inadequate understanding of the terms used. For example, it has frequently been asserted that the number of residents in public mental hospitals has decreased drastically in the last 20 years or so. This sounds like a rather general statement, but in fact it is very specific and defines a limited set of circumstances.

The phrase *public mental hospitals* refers to state and county mental hospitals, not all hospitals where mental patients are treated. Patients are also treated in such places as VA hospitals (both psychiatric and general), private mental hospitals, community mental health centers, public and private general hospitals with and without separate psychiatric units, and residential treatment centers. Consequently, when one refers to public mental hospitals, the statement is limited to one specific site where people are hospitalized for mental disorders.

The term *residents* refers to the number of people in a hospital at a given time (January 1 in the NIMH data). It does not indicate the number of people hospitalized within a year. *Episode* refers to the total clinical occurrence of a mental disorder. An inpatient episode begins when a patient is hospitalized and ends when the patient is discharged. In national epidemiological data, episodes typically refers to resident patients at the beginning of a reporting year plus all admissions during the year.[1] Since an individual may account for more than one episode during the year (by being discharged and subsequently readmitted), many national data include some duplication of people.

Sources of Data

There is no one national source of data reporting on episodes or people hospitalized for mental disorders. NIMH is the most frequently cited source. However, other important reporting sources include the American Hospital Association (AHA), the National Center for Health Statistics (NCHS), the National Association of Private Psychiatric Hospitals (NAPPH), and the Veterans Administration (VA). Each of these organizations does some survey work of services for mental health care. There is considerable variation across organizations, years, and particular surveys in the breadth of the coverage by the survey regarding sampling proportions, categories of patients and institutions covered, and the like (cf. Sibulkin & Kiesler, in press, for the methodological details on all such surveys and data bases that were found). Consequently, considerable care must be taken in looking at the details of any particular survey in any year.

In all the data to follow, I have tried to make a methodological judgment about the reliability and validity of alternative sources of data. In all cases, I indicate where the data were obtained and the latest year that they cover. Readers interested in the specific details of these judgments, year by year data totals, and the total reference list are referred to the specific articles referenced here.

Does Mental Hospitalization Work?

The effects of mental hospitalization have been reasonably controversial for the 150 years that such hospitalization has been a professional practice. The current approach to mental hospitalization is believed to have begun with the "moral treatment" devised by Pinel in the first half of the 19th century in Europe (cf. Grob, 1973; Mechanic, 1980). There were several successful implementations of this concept in the United States, but the person who had the greatest influence on the development of mental hospitalization here was Dorothea Dix. Dix attempted to extrapolate the concept of moral treatment to apply it to the poor, who were often incarcerated in jails, alms houses, or driven from town to town. Dix's organizational ability was quite incredible; she is given personal credit for the establishment of state mental hospitals in 34 separate states in the United States. The idea behind this method of treatment was to take the mentally disturbed out of the confusing and conflicting press of ordinary life and to remove them to a calm and loving environment far from the hectic urban life (which accounts for the isolated placement of many state mental hospitals). It is interesting to note that in the original implementation of this concept, mental health practitioners were not involved in treatment. It was only later that physicians became involved, and they typically became the superintendents of such institutions. The pristine concept of moral treatment did not remain intact for very long. State mental institutions soon deteriorated into the sorts of snake pits described by Clifford Beers (1908) in his famous book. The historian Grob (1973) and the medical sociologist Mechanic (1980) both feel that much of the deterioration of quality of treatment in mental institutions was caused by their very rapid increase in size. The increased number of patients forced the institutions to adopt a more distant and bureaucratic approach to them to maintain the organization of the institution and administer it smoothly.

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[1] Epidemiologists typically refer to this statistic as "period prevalence," consisting of the point prevalence at the beginning of a specified period plus all new cases that occur during the period (cf. Palinkas & Hoiberg, 1982).

The change in treatment within mental institutions has not been consistent over the years, however. The original Joint Commission on Mental Illness and Mental Health (Joint Commission on Mental Illness and Health, 1961) reports several glowing evaluations of the effects of mental institutionalization during the latter part of the 19th century. One report in particular reported a cure rate of over 70% for the people placed in institutions, as ascertained during a follow-up five years after original discharge. The validity and reliability of these data cannot be ascertained in detail, but it does represent an astonishingly modern form of evaluation research a century ago.

Modern mental institutions have always had serious and articulate critics (e.g., Goffman, 1961). Nonetheless, there have been surprisingly few attempts to evaluate the effects of mental hospital treatment using rigorous scientific criteria. As Kiesler (1982) points out, there are several criteria to satisfy minimal scientific methodological constraints. The most critical of these is random assignment to condition. Demographic and other variables that contribute to someone's being mentally hospitalized, the complexity of the treatment itself, qualitative differences between treatment in hospitals and out, and the potential differences in the personalities and problems of the patients involved all undercut methodological comparisons between hospitalized patients and others unless there has been random assignment of patients to a mental hospital or to some alternative mode of care. In addition, a variety of other statistical and methodological requirements must be satisfied before a reasonable comparison can be made. Obviously, reliable and systematic psychiatric evaluations of all patients are important. Further, a reasonably long period of evaluation would be necessary so that the longer term consequences of treatment could be observed. Behavioral and socially valued variables such as employment, salary, ability to live independently, demonstrations of the capacity to maintain close personal relationships, and the like would also be valuable to measure.

In searching the literature, I was able to find 10 studies involving seriously disturbed patients in which there had been random assignment of patients to a mental hospital or to some alternative mode of care (see Kiesler, 1982). All patients were sufficiently disturbed so as to be initially recommended for hospitalization. The studies varied a great deal regarding the specific alternative care offered, although methods of treatment emphasizing social systems and competency training were disproportionately represented across the 10 experiments. The studies also varied in the degree of methodological detail, the measurement of such important aspects as amount and type of medication, and the length of follow-up. Further, the purpose of almost every study was to test out someone's pet theory of alternative care. As a result, several studies are well-known under the general rubric of alternative care, without scientists closely attending to the important and rare element of random assignment to condition.

Essentially, my secondary analysis reversed the original methodological intent of the 10 studies. I considered the hospitalized patients (the H group) to be the experimental condition, and the alternative care conditions (the AC group) to be a very heterogeneous set of comparison conditions. This form of secondary analysis can be a powerful technique. To the degree that the data are consistent across the studies, one cannot attribute outcomes to variables that vary among the studies. For example, in several cases patients were excluded prior to random assignment on the grounds that they were either too disturbed or too well. The proportion of patients thus excluded varied from 78% to 0%. An alternative explanation for results that depends on a hypothesis that the patients were not seriously disturbed is applicable to some studies but not others. Since it does not apply to all studies, it cannot be posed as a general explanation across the studies. More generally, any methodological or statistical detail in a given study cannot be posed as a general explanation for the total group of studies if the studies vary in the detail but not the outcome.

Across the 10 studies, the effects of alternative care were consistently more positive than those of mental hospitalization. In addition, there was clear evidence of the self-perpetuation of mental hospitalization. Across the studies which included that statistic, people who were randomly assigned to a mental hospital were more likely, after discharge, to be readmitted to the hospital than people who were randomly assigned to an alternative mode of care were ever to be admitted to mental hospitals.

The differences in outcome effectiveness are very consistent across the 10 studies. Although the differences between conditions lessened with time, some effects were still observed several years later. Moreover, the alternative modes of care were less expensive than mental hospitalization. In each of the 10 original reports the alternative mode of care was less expensive. I note, however, that subsequent economic analysis of one of the studies (Weisbrod, Test, & Stein, 1980) appears to contradict this generalization, and the economic analyses in general varied in their sophistication. The most sophisticated economic analysis favored the alternative care by a cost differential of 40%.

My literature review was limited to studies of alternatives to full hospitalization (including day hospitalization), with a methodological requirement of random assignment to condition. Since that article went to press I have become aware of three other overlapping but independent efforts to review some or all of this literature. Braun, Kochansky, Shapiro, Greenberg, Gudeman, Johnson, and Shore (1981) reviewed this literature plus alternatives to continued hospitalization. They did not limit themselves to studies with random assignment, but concluded, "experimental alternatives to hospital care of patients have led to psychiatric outcomes not different from and occasionally superior to those of patients in control groups. The conclusion is best supported for alternatives to admission and for modification to conventional hospitalization" (p. 736). Six of the studies they reviewed involved random assignment to condition. Greene and De La Cruz (1981) reviewed 11 studies of day treatment, four with random assignment. They concluded that day treatment is superior in facilitating social adjustment and "on a par with full-time hospitalization regarding its effectiveness in alleviating psychopathological symptoms, in reducing family stress, and in preventing subsequent hospitalization" (p. 199). It is interesting to note that Greene and De La Cruz included evaluative ratings of methodological rigor (Parloff & Dies, 1978). The ratings of the four true experiments ranged from B+ to D (on an A–F scale).

Straw (1982) has compiled the most thorough review in a meta-analysis of alternatives to mental hospitalization. He analyzed the data from 30 studies, 16 of which I would judge as involving random assignment (9 overlap with my review). Straw did not analyze the studies with random assignment separately, but concluded that "most, if not all, patients can be treated in the community" (p. 155) but cautioned that it is difficult to conclude that AC groups are superior on any specific outcome.

These four rather different approaches to reviewing a similar and overlapping literature yield very similar conclusions. Alternative care always is as good or better than hospitalization regarding outcomes, and almost always is less expensive. The uniformity of general results across studies is quite striking given substantial variations in methodological rigor, the power of the tests, and the variations in actual treatment alternatives.

However, to say that these studies satisfy the basic conditions for a true experiment does not mean they are without methodological problems. There are a number of such problems related to details not reported (e.g., drug dosages), posttest measures taken by people not blind to experimental condition, a shotgun approach to dependent measures,[2] potential Hawthorne effects, and contaminated mediating processes. Any given study can possibly be critiqued or even explained by one or the other of these problems. However, none of the problems runs throughout the studies, and hence none provides an alternative explanation for all the studies. They do deserve further investigation and discussion.

One important contaminant is the Hawthorne effect, in which the interest and enthusiasm generated by a new technique determines its effectiveness rather than the technique itself. Straw and I tend to have somewhat different ideas on the potential of the Hawthorne effect to explain these data. My sense of it is more or less the following. The authors of several studies reported considerable resistance and antagonism of the staff to the study, not enthusiasm. One study was serendipitous, resulting from an unanticipated closing of a mental health unit, without any staff enthusiasm for that situation. In another, all treatment occurred in group therapy sessions with hospitalized and alternative care patients mixed together. The Hawthorne effect is so clearly ruled out in a sufficient number of studies as to be rendered very unlikely as an overall alternative explanation for the group of studies. Straw (1982), on the other hand, included a measure in his meta-analysis of the authors' "allegiance to the innovation." Greater allegiance correlated with a larger effect size.

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[2] The fairly arbitrary inclusion of large sets of dependent variables creates potential problems for meta-analysis. Not all could be expected to show significant effects, but all are included in the meta-analysis. In Straw's (1982) case, if the specific number (mean, variance) of an effect were not reported, he counted the effect size as zero, probably making his overall analysis of effect size quite conservative.

However, the allegiance measure was based upon the coders' rating of the enthusiasm the authors expressed for this innovation in the publication. This could indeed be the Hawthorne effect at work. It could also be that authors with more powerful effects write more enthusiastically about them.

It also is not entirely clear whether reduced admission to hospitals by the AC groups is due specifically to the innovative technique, the "debilitating" experience in the hospital, or the outcome of general medical practices. For example, Silverman and Saunders (1980) found that 41% of the variance in admission rates (between counties in Ontario) was explained by physical proximity to the hospital. Different types of practitioners also differed systematically in their propensity to hospitalize any specific patient (cf. Straw, 1982). One must remember that all patients in these studies were originally recommended to be hospitalized. If the hospitalized patients have further difficulties after discharge, returning to the original professionals (who have already displayed a willingness to hospitalize them) may be the key variable rather than the state of the patients. The reduced proportion of hospitalization for AC patients may simply reflect their disinclination to return to the attending professional who originally recommended them for inpatient care.

Such ambiguities deserve further investigation. Particularly, the comparative power of types of alternative care needs to be investigated. The consistency of these results, however, is still notable. In spite of some methodological problems and continuing ambiguities, every comparative test has shown alternative care to be as good as or better than hospitalization.

How Many People Are Hospitalized for Mental Disorders?

Stated in this form, this question cannot be answered at a national level. The only national data gathered from any source are the numbers of clinical episodes of inpatient hospitalization, not the numbers of people. Some duplication of people results from the counting of episodes, and I will review this evidence later. However, the only national evidence available refers to clinical episodes of inpatient care, and it is this question which this section addresses.

Kiesler and Sibulkin (in press-a) thoroughly reviewed several different sources of national data regarding inpatient episodes. They investigated inpatient episodes in state and county mental hospitals, in the VA system, in private mental hospitals, in general hospitals both with and without psychiatric units, in CMHCs, and in residential treatment centers. Data on episodes per se were not available in every case and sometimes had to be approximated through other means. No national source reviewed all of the data on all of these sites of hospitalization, and we therefore attempted to distinguish among sources regarding the coverage of the data provided. In addition, there is some difference among sources in the latest year of data provided.

Table 1 shows the aggregated estimates that Kiesler and Sibulkin derived from these various sources. There are several things to be noted from that table. First, we were able to uncover approximately 3 million clinical episodes of inpatient care. This contrasts with the often-quoted official estimate of 1.7 million, based on NIMH estimates alone. The data also do not include the approximately one million cases for which mental disorder was a secondary diagnosis. Further, these data do not include estimates of clinical episodes in nursing homes where the primary disorder is mental. If one included mental disorders treated within the context of nursing homes, then the total would be closer to 3.8 million. Our method, which we refer to as a multiple-source method of estimation, surely is more reliable than any other method of counting episodes currently available. We derive more reliable estimates by looking across sites and closely inspecting alternative data batches. Table 1 reports only the most recent data that we were able to obtain on mental hospitalization. The reader is referred to the original article for the data over years for each of the sources listed and each of the hospital sites listed in Table 1.

The site of mental hospitalization has changed dramatically in recent years. More inpatient episodes (almost 60% of the total) occur in general hospitals than in any other setting. The changing site has another interesting implication. If one would ask the lay public (perhaps even professionals) to discuss mental hospitalization, they would probably concentrate on the stereotype of private mental hospitals and state/county mental hospitals. This stereotype of where people are hospitalized for mental disorders is startlingly out of date. Private mental hospitals and state/county mental hospitals together now account for only about 25% of the total number of episodes of mental hospitalization.

TABLE 1

Aggregated Estimates of Number of Inpatient Psychiatric Episodes in the United States

Site	Estimated episodes	Unit of analysis	Source	Latest year
State/county hospital	574,000	Episodes	NIMH	1977
VA hospital	209,000	Episodes[a]	VA	1980
Private mental hospital	151,000	Episodes	NIMH	1977
General hospital	1,746,000	Discharges + ADC[b]	NCHS	1980
CMHCs	299,000	Episodes	NIMH	1978
Resident treatment center	33,500	Episodes	NIMH	1977
Total	3,012,500[c]			

Note. From "People, Clinical Episodes, and Mental Hospitalization: A Multiple-Source Method of Estimation" by C. A. Kiesler and A. E. Sibulkin, in R. F. Kidd and M. J. Saks (Eds.), *Advances in Applied Social Psychology*. Copyright 1982 by Lawrence Erlbaum Associates. Reprinted by permission. NIMH = National Institute of Mental Health, VA = Veterans Administration, NCHS = National Center for Health Statistics, CMHC = community mental health center, ADC = average daily census.

[a] Authors' calculation.

[b] The ADC could only be estimated here. An ADC of 54,000 was derived by dividing the 19,578,000 total days of care (including any in the previous year) accumulated by the discharges during the year by 365. A true average daily census is calculated by dividing inpatient-days by 365.

[c] Does not include nursing homes or secondary diagnoses of mental disorder.

The Rate of Mental Hospitalization

The previous section presents the most recent estimate of the total number of episodes of mental hospitalization in the various sites. This section will discuss the rate of mental hospitalization (per 100,000 population). Experts in the field have generally accepted that the rate of hospitalization has been stable over the last 15 years or so (Klerman, 1979; Pardes, 1981). However, whether the rate is stable depends on how one views the episodes occurring in general hospitals, specifically those without formal psychiatric units.

NIMH views its mission as being to concentrate on the "specialty mental health sector." In that context, the institute periodically surveys episodes occurring in general hospitals with psychiatric units. In the most recent survey in 1977, NIMH estimated that 574,000 inpatient episodes for mental disorders occurred in general hospitals with psychiatric units. On the other hand, in 1979 NCHS constructed a sample of episodes in all general hospitals, with or without psychiatric units. Their total was 1,775,000 episodes for mental disorders. The NCHS estimate represents the total; the NIMH one represents the subset of hospitals with psychiatric units. If simple subtraction would suffice,[3] this would mean that approximately 1.2 million inpatient episodes are occurring in general hospitals without psychiatric units. This represents about 40% of the total episodes in the United States and makes general hospitals without psychiatric units the most popular site for mental hospitalization.

Quite different conclusions are reached regarding total inpatient episodes, depending on whether one focuses only on the "specialty mental health sector" or looks at all general hospitals. Indeed, most of the difference between our estimates of total episodes and those of NIMH can be attributed to our inclusion of all general hospitals in our data base. The methodological difference obviously affects the total, but the stability of the rate of hospitalization over years would not necessarily be affected.

Kiesler and Sibulkin (Note 1) calculated the rate of hospitalization by each method over a 15-year period for which data were available (1965–1979). The results are presented in Figure 1. As Figure 1 shows, excluding general hospitals without psychiatric units produces a stable rate of hospitalization across years (the slope of the best fit line is near zero).

Including all general hospital episodes leads to a rate of hospitalization increasing across years in an approximately linear fashion (slope = 34.8, $t = 13.4$, $p < .001$). One can see why the difference in slopes is so sharp by looking only at episodes in general hospitals without psychiatric units. Kiesler and Sibulkin estimated that in 1965 there were only 184,000 such episodes; this figure rose steadily over the years to 1,200,000 in 1979.

If one includes all cases, the rate of mental hospitalization is increasing linearly. However, the

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[3] There are several problems with the subtraction method. First, each total is an estimate based on a sample survey. The reliability of the difference is less than that of either alone. Second, there is potentially some duplicate reporting between the NCHS estimate and the CMHCs that are affiliated with a general hospital without a psychiatric unit. The maximum potential duplication is not sufficient to disturb the conclusions reached in this section, but it does make the subtraction method less reliable.

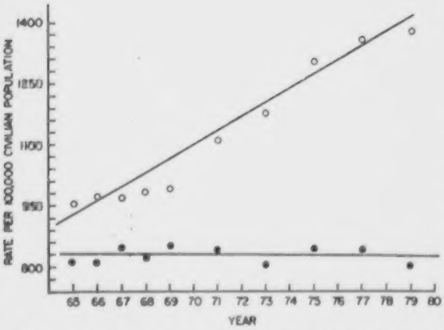

Figure 1. Number of inpatient episodes for mental disorders per 100,000 civilian population, 1965–1979. (Solid line represents best fit line. Black dots represent NIMH data and exclude inpatient episodes occurring in general hospitals without psychiatric units. Open circles are from Kiesler & Sibulkin [Note 1] and represent all inpatient episodes, including those in general hospitals without psychiatric units.)

conclusion of increase in rate or stability depends on how one views episodes in general hospitals without psychiatric units. Suppose, as some have privately suggested to me, those episodes occur only for diagnosis and referral, not active treatment. If so, then there should be no difference in such factors as age, sex, and diagnosis of patients in hospitals with and without psychiatric units (since the latter are to be transferred later, according to this hypothesis), but the stay of the latter should be extremely short. Direct investigation of these issues is not yet possible, but Kiesler and Sibulkin (Note 1) applied their crude subtraction method to the data at hand. Compared to psychiatric units, patients in other general hospitals disproportionately tended to be over 35, male, and alcoholic or neurotic (all $ps < .001$). The average length of stay was approximately eight days. Eight days is considered a short stay for psychiatric disorders, but it is still within that considered appropriate for brief treatment (e.g., Glick & Hargreaves, 1979), and it is approximately equal to the average hospital stay for all medical disorders.

Clearly more direct investigation of psychiatric patients in general hospitals without psychiatric units is needed. However, the preliminary evidence suggests that they are not there simply for diagnosis and referral and that some sort of active, although brief, treatment program is being carried out. If so, one must include such cases in the national data base and thereby conclude an increasing rate of mental hospitalization.

How Long Do People Stay in Mental Hospitals?

Conceptually, the notion of a length of stay for mental disorder in a hospital is simple. One simply notes when the patient arrived and was discharged, and merely calculates the elapsed time. In practice, however, lengths of stay in hospitals for mental disorders are only rarely noted. Most national statistics published in the area of mental health do not reflect true lengths of stay.

In national statistics, hospitals do routinely keep track of such statistics as admissions, discharges, residents, average daily census (ADC; the average number of patients per day during the year), episodes (residents plus admissions), and the total number of inpatient days (ADC × 365).

These statistics are often used to calculate length of stay at a national level, but the resulting statistics are incorrect and can be substantially misleading. Typically, the total number of inpatient days during the year is divided by either admissions or discharges. In the numerator of such a ratio only the days spent by patients during that year are calculated. Any days spent by patients prior to the beginning of the reporting period but who continue on in the hospital are not noted, and any days spent beyond the yearly reporting period by patients who continue in the hospital at the end of the year are also not noted.

How inaccurate an aggregated length of stay (LOS) can be depends on several factors. If the number of days spent by the aggregated patients prior to the beginning of the reporting period equals the number of days spent by patients after the reporting period, the ratio is more accurate. The ratio gains accuracy to the extent that the number of admissions equals the number of discharges. Of course, if any patients are in the hospital throughout the reporting period (i.e., they spend more than one year in the hospital), the statistics will be seriously inaccurate. Phrased a different way, if the true length of stay is decreasing (as some people say it is), then any of the aggregate statistics will lead to an underestimate of the true length of stay. Total inpatient days, which is a routine national statistic, cannot be used to calculate a true length of stay. The correct statistic is called *discharge days* or *days of care*. Discharge days cannot be derived from aggregate national statistics and must be calculated from individual medical records.

Although Kiesler and Sibulkin (in press-b) perused all of the same sources of data used in the study calculating the number of clinical inpatient episodes, the discharge days were only rarely available. NIMH, for example, does not include discharge days on its most frequent surveys and only includes them for community mental health centers since 1980. We were able to find a few NIMH sample surveys of patient records that reported median length of stay. The American Hospital Association survey does include an item on discharge days for its hospitals, but it does not publish the results. Our major source was the National Center for Health Statistics. Statistics for true length of stay had been published for two different years, and we were able to obtain previously unpublished data for seven additional years from the NCHS National Master Facility Inventory. However, those data cannot be applied to general hospitals since the hospital (rather than the discharge record) is the unit of analysis in those AHA–NCHS surveys. For general hospitals, we were able to obtain some data from a different NCHS survey, the National Hospital Discharge Survey (NHDS). The AMIS VA data system does not include discharge days, but a separate information system, the patient treatment file (PTF), does. In the data to follow, therefore, the VA patient treatment file was used for their hospitals, the NCHS Master Facility Inventory was used for state/county and private mental hospitals, and the NCHS National Hospital Discharge Survey provided data for general hospitals. NIMH provides the only data for CMHCs, and these do not include true length of stay, but we were able to estimate at least the direction of the error in those statistics.

Table 2 represents the summary of trends in the length of hospital stay for mental disorders over the last decade or so (see Kiesler & Sibulkin, in press-b). As one can see, only rarely were both the mean and median number of days available. This is important since the distributions of lengths of stay are highly skewed toward longer length of stay. There are several things to note from these data. First, the average length of stay varies greatly across hospital sites, from 11.6 days in general hospitals to six months for state/county hospitals. Second, only two of the seven sites (VA psychiatric hospitals and state/county hospitals) have experienced a decrease in LOS in the last decade or so. All other sites of hospitalization, which account for almost 80% of the inpatient episodes, have had stable LOS during that time period.

TABLE 2

Summary of Trends in Length of Hospital Stay for Mental Disorders by Site

Site	Trend of LOS during 1970s	Latest figures		Year of latest LOS
		M	*Mdn*	
VA general hospital				
Psychotic	Stable	74.1		1978
Nonpsychotic	Stable	28.0		1978
VA psychiatric hospital				
Psychotic	Very sharp decrease	160.6		1978
Nonpsychotic	Slight decrease	52.9		1978
General hospital[a]	Stable	11.6	6.9	1980
State/county hospital	Very sharp decrease	189.1	25.5[b]	1978
Private (profit)	Stable	31.6	20.2[b]	1978
Private (nonprofit)	Fluctuating	42.3		1978
CHMCs	Stable	13.6[c]	NA	1978

Note. From "Episodic Length of Hospital Stay for Mental Disorders" by C. A. Kiesler and A. E. Sibulkin, in G. M. Stephenson and J. H. Davis (Eds.), *Progress in Applied Social Psychology.* Copyright 1982 by John Wiley & Sons. Reprinted by permission. VA = Veterans Administration, CMHC = community mental health center, LOS = length of stay.

[a] Includes hospitals with and without psychiatric units.

[b] From the National Institute of Mental Health's 1975 survey of admissions (Mental Health National Statistics Series CN No. 2).

[c] Approximate, see text.

The average length of stay for both state/county hospitals and the VA psychiatric hospitals has been dropping for years. For example, in 1954 the average length of stay for psychotics in all VA hospitals was 445 days (a median of 66 days); it peaked at 672 days in 1958, and it has continued to fall fairly systematically (sharply in the last 15 years) to a mean of 92 days (a median of 22 days) in 1980. We have only 9 years of true length of stay statistics for state/county mental hospitals, based on the NCHS surveys from 1969 to 1978. The average length of stay in state and county mental hospitals in 1969 was 421 days, falling consistently and sharply to 189 days in 1978. By contrast, nonfederal short stay (i.e., general) hospitals, which handle a majority of national inpatient episodes now, have remained very stable, with an average length of stay of 12.6 days in 1965 and 11.6 in 1980.

One has to qualify the answer to the question, How long do people stay in mental hospitals?, by the site in which one is hospitalized. Among possible sites, there is a 16:1 ratio between the shortest average length of stay and the longest. Further, even though the average length of stay, irrespective of site, has decreased, the total decrease is completely due to sharp decreases in the two sites that began with and still have the longest average lengths of stay. The shorter lengths of stay seem to have stabilized in most hospital sites.

Has the Rate of Rehospitalization Been Rising?

The question of the rate of rehospitalization is a very complex one. There are two basic approaches, neither of which is feasible given the current array of national record-keeping. One method is to follow individual inpatients across the rest of their lives to see how many times they have been rehospitalized. The modified form of this approach is to look at the rehospitalization rate within a reasonably lengthy but still specified length of time, such as 10 years. No such data exist at the national level, and despite considerable national discussion, the question cannot be answered either precisely or directly.

This question also has implications for the data already presented. The two previous sections describing hospitalization rate and length of hospital stay refer in both cases to episodes, not to people. Within any given year, it would be of interest to ascertain how many people were actually involved, which demands that we know how many episodes each person accounts for on the average. There are some data on this issue.

The data that have been discussed most frequently over the years derive from a study by Bahn, Gorwitz, Klee, Kramer, and Tuerk (1965) on the first-year data for the Maryland State Psychiatric Register. Such registers attempt to track all psychiatric episodes, whether inpatient or outpatient, within a given year. They typically underestimate the number of outpatient episodes and visits because the state or county registers tend to track only the practices of psychiatrists and exclude other mental health professionals, such as social workers and psychologists. On the other hand, one would expect such estimates to be substantially more accurate for inpatient episodes. Bahn et al. found each hospitalized patient to account for 1.2 inpatient episodes during that year. Thus one could multiply the reciprocal of that number (.83) by the number of episodes to derive the actual number of people involved. It is important to note that their study was for one year only, did not track people beyond that time period, was derived almost 20 years ago, and covered only one specific geographical region of the United States.

More recently Goldberg and Allen (Note 2) completed a multiple-year study of the Monroe County (New York) Psychiatric Case Register. Some of the comparisons lack reliability because of changes in record-keeping over the years. However, they were able to study one five-year period intensively. Goldberg and Allen found an average of 1.35 episodes per person during each year, leading to a correction factor of approximately .74. This is a slightly higher readmission rate than the Maryland data of 15 years earlier.

The alleged "revolving door" phenomenon demands such a difference in readmission rates. However, it is difficult to tell whether the difference between these two studies reflects changed national treatment practice or rather some other alternative mechanism based on differences between the two regions or the difference in time. I do want to note several things. The readmission rate found by Goldberg and Allen is only about 12% higher for the mid-1970s than Bahn et al. found for the early 1960s. Consequently, this slight change in the readmission rate could in no way be used to explain the much more dramatic increase in number of total inpatient episodes nationally. There is another problem in attempting to use these data to support a revolving door hypothesis. Even though the average readmission rate found by Goldberg and Allen was 12% greater than that found by Bahn et al., Goldberg and Allen found no difference in readmission rate across the five-year period they studied very intensively. If one wishes to infer that the difference in readmission rate between these two studies is real, then one must also conclude that the readmission rate is no longer rising.

Looked at a different way, a slight increase in readmission rate would not necessarily be cause for alarm. During the time period covered by these two studies, the average length of stay at hospitals decreased substantially more than the difference in readmission rates found in the two studies. Assuming the difference in readmission rate to be reliable, valid, and reflective of the nation at large, the inference would be that we put people in mental hospitals slightly more often but for much less time each episode, making for a substantially decreased total number of inpatient days per person.

The Bahn et al. study was for one year only. The Goldberg and Allen study, even though reflecting multiple years, deals with data that are within-year only. We have no way of ascertaining whether people hospitalized in Year 1 were also hospitalized in Years 2, 3, and 4. The data were not gathered in a way that allows such an analysis. There is some evidence that one should track individuals across years rather than simply within years. An NIMH study over a 10-year period with Monroe County data clearly demonstrates this point (NIMH, 1976). NIMH reported the number of psychiatric inpatient days spent in the first year in which a patient was admitted, and a total for the 10-year period. (They did not break the data down year by year.) In that study, patients spent an average of 86 inpatient days in the first year they were hospitalized. The same patients spent an average of 332 inpatient days over the course of the 10-year period. Only about a fourth of the total inpatient days in the 10-year period occurred during the first year following admission. This finding suggests very strongly that we should be tracking patients over years; we cannot easily evaluate the outcomes of our national inpatient policy without such data.

With the same constraint in mind, it is still possible that the national readmission rate for inpatient care has risen much more dramatically than the difference between the Bahn et al. and Goldberg and Allen studies indicates. We may still have a revolving door phenomenon, but simply now have a longer period of time between a given discharge from a hospital and the next readmission. An increase in readmission rates might be detected if one were to go beyond the one-year data period.

There are other data on readmission rates restricted to specific sites. For example, it seems very clear that the proportion of patients who are hospitalized in state and county mental hospitals who have been hospitalized before has increased fairly substantially (NIMH, 1976). However, there are several conceptual problems in using such data to infer a more general increase in readmission rates. First, the state and county mental hospital is only one of a number of possible places in which to hospitalize people with mental disorders. Second, it is a site that accounts for a rapidly decreasing percentage of the total number of national episodes. Third, because the number of episodes and the proportion of the total has been decreasing, the diagnostic categories may have been changing as well. The total national aggregate of inpatient episodes (rather than only one site) needs to be taken into account. Fourth, state and county mental hospitals are the places that traditionally have had the longest length of stay, and they have gone through a recent dumping-out of patients who have been in the hospital for a long period of time (many for more than 10 years). Long periods of time spent in a state/county mental hospital undercut one's ability to deal independently with life outside. The data previously presented on alternative modes of care were accumulated in sites substantially more professionally advanced than state/county mental hospitals, with substantially shorter average lengths of stay. Even there one apparently finds evidence of mental hospitalization undercutting one's competence to live independently outside the institution. One can only infer that a long stay at a state or county mental hospital would exaggerate this phenomenon. In short, the increase in proportion of state/county patients who have been in mental hospitals before could well be due to the specific types of patients and their previous institutional experience.

In summary, the data on the revolving door phenomenon are surprisingly sparse. No national data allow one to make such an inference. The best data existing are those accumulated by Goldberg and Allen (Note 2). However, they reflect one county only and are stable over an intensively studied five-year period. Goldberg and Allen do find higher readmission rates for the mid-1970s than Bahn et al. (1965) found for the early 1960s. However, other differences between the two places where the data were gathered could easily account for the difference. Many of our professional colleagues are firmly convinced that a revolving door phenomenon exists. We do not have the data to rule out the possibility, but there are no impeccable data with clear support for it.[4]

What Proportion of Total Hospital Days Are for Mental Disorders?

As mentioned previously, the National Center for Health Statistics has published two years of data on its Master Facility Inventory (actually based on AHA data). These data are the best source of data on true length of stay, but they also include an exceptionally useful statistic. NCHS listed the total hospital days spent in the United States for particular disorders. Kiesler and Sibulkin (Note 3)

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[4] The study of readmissions for mental disorders should be placed in the more general context of readmissions for other disorders. Zook and Moore (1980) have found that 13% of general hospital patients use over half of the hospital resources in a year. Zook, Savickis, and Moore (1980) found for mental disorders that 61.5% of the hospitalized patients had been there before. This figure was less than that for such diagnoses as spinal cord injury (95.3%), alcohol-related gastrointestinal disease (80%), benign lung disease (71%), and endocrine/metabolic disorder (62.2%), but more than that for benign bowel disease (50.2%).

TABLE 3

Number of Inpatient Days in Various Sites According to NCHS, VA, and NIMH Surveys, 1969–1978

Site	1978	1977	1976	1975	1974	1973	1972	1971	1969
VA psychiatric sections									
1. General hospital	5.247	5.207	5.277	5.166	4.650	4.536	4.504	3.731	2.726
2. Psychiatric hospital	3.088	3.364	3.789	4.345	5.145	5.697	6.966	10.021	13.283
3. State mental hospital	51.458	56.582	61.217	69.119	77.868	89.246	100.604	113.821	131.555
Private mental hospitals									
4. Profit	2.630	2.474	2.380	2.343	2.216	2.174	1.786	1.991	1.987
5. Nonprofit	2.816	2.482	2.453	2.457	2.357	2.137	2.251	2.488	3.272
6. General hospital[a,b]	19.435	17.606	15.604	16.496	15.248	14.176	13.666	12.341	9.760[c]
7. CMHCs	4.063	3.818	3.951	3.948	3.836	3.276	2.562	2.225	1.129[d]
8. RTCs	6.433[f]	6.433	5.900[f]	5.900	6.338[f]	6.338	4.521[f]	4.521[f]	4.521
9. Total psychiatric days	95.170	97.966	100.607	109.774	117.658	127.580	136.860	151.130	168.233
10. Total NCHS inpatient days	370.930	376.792	384.461	391.437	400.070	408.858	416.066	434.290	462.360[e]
11. Total NCHS inpatient days & CMHCs & RTCs	381.426	387.043	394.312	401.285	410.244	418.472	423.149	441.036	467.950
12. % all days	25%	25%	26%	27%	29%	30%	32%	34%	36%

Note. Table entries are given in millions. VA = Veterans Administration, CMHC = community mental health center, RTC = residential treatment center, NIMH = National Institute of Mental Health, NCHS = National Center for Health Statistics.

[a] The National Hospital Discharge Survey universe includes discharges from all nonfederal short-stay hospitals, not just general ones (see text).

[b] These are discharge days, not inpatient days (see text).

[c] Discharge days in 1968; medical data for 1969 are not available.

[d] Data concerning inpatient days for 1969 are not available. This figure was estimated by multiplying the 1,923,720 inpatient days in 1970 by .59 (the same ratio the 1969 episodes are to the 1970 episodes).

[e] Approximated by multiplying the number of patients present on the last day of the reporting period by 365.

[f] Previous year's data.

were therefore able to calculate the proportion of total hospital days in the United States that were for mental disorders. NCHS cooperated in furnishing us with previously unpublished data from seven additional years. This section presents the nine years of data that we have on total hospital days and those spent for mental disorders.

The NCHS data must be corrected somewhat; they do not include the hospital days for CMHCs, RTCs, nor those for the VA.[5] Consequently Kiesler and Sibulkin added those totals to the NCHS data for both mental disorders and the total hospital days. Table 3 presents the resulting array that Kiesler and Sibulkin (Note 3) were able to derive for the years 1969 and 1971–1978.

As one can see, in 1969 there were a total of 468 million hospital days spent in the United States for all disorders, including mental (Line 11). This number fell sharply to 381 million in 1978. In 1969 168 million of those days (36%) were spent for mental disorders (Lines 9 & 12). This number fell to 95 million in 1978, when mental disorders accounted for 25% of the total hospital days spent for all diagnoses. These figures have not been noted elsewhere, and only two years of data have been published. They are quite interesting from several perspectives. Over the decade 1969 to 1978 the total hospital days in the United States fell 18.5%, or over 86.5 million days. Without further inspection, this might be regarded as a resounding success for the improvement of medical practice, surgical techniques, and proponents of hospital cost-containment. On the other hand, 73 million (85%) of those savings are due to the drop in days spent in hospitals for mental disorders.

Mental hospitals have decreased from 168 million inpatient days in 1969 to 95 million in 1978, a decrease of 73 million. In spite of this astonishing decrease, mental disorders still account for 25% of the total hospital days spent in the United States.

The decrease in hospital days for mental disorders has not occurred uniformly across hospitalization sites. Only two sites have decreased since 1969: the VA psychiatric hospitals and the state/county mental hospitals. The state/county mental hospitals have decreased from a total of over 132 million inpatient days in 1969 to 51 million in 1978. Most of this decrease is due to the decrease in the average length of stay in state and county mental hospitals, not to a decrease in episodes. In 1969 the average length of stay in a state hospital was 421 days; by 1978 it had decreased to 189 days.

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[5] The Master Facility Inventory does include "federal psychiatric hospitals," which includes VA hospitals, but only psychiatric ones. Hence, we used data from the VA in order to include general and psychiatric hospitals in our count of psychiatric inpatient days.

During this same decade, the VA (all psychiatric sections) decreased its total number of inpatient days for mental disorders by approximately 50%. This decrease is due mainly to the treatment of psychotics in psychiatric hospitals. The average length of stay for psychotic patients in psychiatric hospitals, 1974 to 1978, fell from 325 days to 161 days. Although psychotics account for a substantial proportion of the decrease in total days in the VA, the LOS for such patients is still lengthy.

These data reveal several startling things. A decade ago, mental disorders accounted for over a third of total inpatient days in the United States (25 years ago, over half; cf. Kiesler & Sibulkin, 1982), and mental disorders still account for a fourth of total inpatient days in the United States. The huge decrease in total medical inpatient days in the United States is almost totally accounted for (85%) by the decrease in inpatient days for mental disorders. The decrease in inpatient days for mental disorders, however, is specific to two hospital sites rather than reflecting general improvement of treatment efficacy.

In spite of the decrease in total days of treatment, we should be careful about assuming similar decreases in costs, even in constant dollars, or about excluding posthospital treatment. The sites surely vary a great deal in per diem costs. Decreases in total days of care have been observed only in sites where per diem costs are less and custodial care more likely (VA psychiatric and state/county hospitals). The largest increase is in one of the most expensive sites, general hospitals. The ultimate cost is surely a joint function of average length of stay, intensity of the treatment, and the specific site.

Discussion

At the beginning of this article I noted that many people believe that we now put fewer people in mental hospitals and for shorter periods of time, but that they are rehospitalized more often. Further, people believe that mental hospitalization is the correct treatment for these few because there is no real alternative treatment available. Finally, mental hospitalization is not seen as a major part of the national structure of hospitalization in general.

All these generalizations are either demonstrably false, are true for only a small part of the national picture, or are essentially uninvestigated. The following represents a more correct set of general statements regarding mental hospitalization.

1. Mental hospitalization is increasing well in excess of the population rate. The validity of this statement depends entirely on one's view of inpatient episodes in general hospitals without psychiatric units. If one excludes them, and preliminary evidence suggests that they should not be excluded, then the rate of mental hospitalization is stable.

2. The site of hospitalization has changed dramatically. The public image of mental hospitalization—the state mental hospital and the private mental hospital—now accounts for only 25% of the total incidence of mental hospitalization.

3. Hospital stays for mental disorders have decreased recently only in state mental hospitals and in VA psychiatric hospitals (which together account for only about 20% of the total episodes) although these still average six and five months, respectively. The other sites of hospitalization have had fairly stable lengths of stay over the last decade or so.

4. At least several more effective alternative treatment modes do exist. Within the limits of minimal scientific methodology, there has been no single unsuccessful effort to discover alternative treatment. Further, mental hospitalization appears to be self-perpetuating, as critics have been suggesting for years.

5. There is little evidence to support or to test the notion of the revolving door phenomenon. The best summary might suggest that (a) rehospitalization rates may be increasing for state mental hospitals; (b) however, a recent 5-year investigation did not show a more general increase across years; (c) the small difference between that time and one 15 years earlier, if valid, would explain only a fraction of the increase of total hospital episodes over the same period. Of all the questions investigated in this article, the issues surrounding the revolving door have the weakest empirical base.

6. Hospitalization for mental disorders accounts for a substantial fraction of the total hospital days in the United States. Approximately 25% of the total hospital days are for mental disorders. Policy alternatives regarding alternative care and decreasing length of stay (particularly in state mental hospitals and psychiatric VA hospitals) could have

significant effects on U.S. hospital cost-containment policy and practices.

Clearly, we must reassess our national policies regarding mental hospitalization. The set of issues raised by these data are so complex that only a few of the more salient aspects can be touched on here.

These kinds of data are very important for the development, evaluation, and progress of public policy on mental health. Data regarding various behavioral and social outcomes of mental hospitalization need to be more accessible to scientists. No agency now tracks all of the variables or all of the hospitalization sites described here. The need for policy-relevant data is enormous (cf. Mechanic, 1978; Rubin, 1980). NIMH is the obvious agency to do this. The supreme irony is that although a substantial increase in budget would be necessary to even begin gathering the appropriate data base, the budget of NIMH's present activities is being severely decreased. A number of existing data-gathering responsibilities have been handed to the states for fiscal reasons. However, to develop an appropriate national data base, it is necessary for the data-gathering approach and the specific items tracked to be either identical or sufficiently similar to be aggregated across states and time. It is unlikely that such outcomes will occur without sufficient direction and financial incentives from the Congress and the executive branch. The new NIMH Mental Health Statistics Improvement Program, designed to encourage uniform reporting by and from states, will help. Nonetheless, it seems likely that the quality of national data regarding mental hospitalization, in spite of the best intentions of involved professionals, will decrease substantially in the next few years.

We need to restructure our approach to mental hospitalization totally. It appears (Kiesler, 1982) that the majority of patients hospitalized for mental disorders could be treated more effectively and less expensively elsewhere. To be more precise, the treatment modalities exist, but specific programs do not (cf. Talbot, 1981). The problems of the deinstitutionalized are legion (e.g., Bachrach, 1976). The data reported here do not suggest that patients can be dumped from institutions. They further do not suggest that a lack of treatment can be considered as a serious alternative to hospitalization. I do not advocate any specific alternative (several seem possible), and more research is clearly needed. However, this is one of those rare circumstances in public policy where the data are sufficiently clear that a variety of actions can be taken without awaiting years of future research. Several treatment modalities appear to be more efficacious and more cost effective than mental hospitalization. Public policy could easily be changed to reflect this fact even while researchers continue to investigate the most promising alternative treatment modalities. Hospitalization for mental disorder is supported by biases in incentives in public and private insurance plans. People are being treated in more costly and less effective environments because it is the only treatment alternative the insurance plan will pay for, or at least pay for completely. A plan that considered the total cost and the patient's welfare might do better to set up financial and professional barriers against hospitalization rather than incentives favoring it.

Prevention has been a difficult concept to sell to federal agencies, to insurance companies, and sometimes to many professionals as well. Certainly these data suggest the development of specific plans and programs to support the prevention of mental hospitalization. Specific approaches might include the revision of professional review organizations and activities, the experimental development of alternative funding mechanisms for treatment of the mentally disturbed, and a substantial investment in research about prevention. One can make a case for the further development of public programs and research on prevention in general (Albee, 1978). The prevention of mental hospitalization and further tests of alternatives to it are one pragmatic subset of such activities.

The review of studies of treatment alternatives discussed in this article includes only studies of treatment used instead of institutionalization. Studies evaluating methods of deinstitutionalizing patients (e.g., Paul & Lentz, 1977) are not included. Space prohibits a detailed review of deinstitutionalization efforts (cf. Bachrach, 1976), but the work of Paul and Lentz is especially noteworthy. They worked with patients who had already been hospitalized for an average of 17 years and who had previously been rejected for community care in spite of aggressive deinstitutionalization efforts. Of the 40 patients in their social learning condition, 36 were ultimately released to room-and-board arrangements, and three others achieved a self-supporting, independent living. The Paul and Lentz technique is meticulous and time-consuming, but clearly very effective.

The work of Paul and Lentz is laudable in its own right as a method to deinstitutionalize patients. However, it is also relevant to this discussion of alternatives to mental hospitalization. That is, the method of treatment requires such control over the patients' environment and such detailed observation of their behavior that it could not be accomplished outside some sort of total environment. The issues surrounding mental hospitalization are very complex. The point is that one should not view mental hospitalization as a homogeneous treatment modality. In the studies I have reviewed, hospitalization did not fare well compared to any one of several treatment alternatives. Research is needed to compare types of treatment modalities (in and out of hospitals) and the ways in which they interact with patient conditions. These are complicated scientific questions, and one should resist overly simplistic and preliminary solutions.

A different information need relates to the activities now taking place in general hospitals without psychiatric units. We know very little about the patients who are being treated in such hospitals, other than that they do not stay long. General hospitals without psychiatric units are now the site where treatment of mental disorders most frequently occurs. NIMH has been tracking some activities in general hospitals with psychiatric units, but very little is known about the hospitals without psychiatric units. The epidemiology, demographics, the payment methods, the treatment modalities utilized, and the outcomes of such treatment all should be investigated thoroughly. It seems strange that we know so little about the hospital site where the most inpatient episodes occur.

These various data deal with primary diagnoses of mental disorder. Secondary diagnoses of mental disorder are even less well tracked. However, the degree to which mental problems are routinely present in physical disorders and vice versa is often incompletely appreciated (cf. Broskowski, Marks, & Budman, 1981). Goplerud (1981) describes a stratified survey in which it was found that 28% of the sample had emotional problems, 39% had one or more physical illnesses, and 26% reported such psychosomatic disorders as nervous stomach, hypertension, and colitis; 10% of the sample reported all three categories, and another 11% reported two of the three (cf. Schwab, Bell, Warheit, & Schwab, 1979). On the other hand, which diagnoses are primary, secondary, or even recognized depends on the perspective and training of the attending physician. Hoeper (1980), for example, found that general practitioners detected only 3% of psychiatric cases when diagnoses were independently assessed.

There is consequently good potential for diagnostic slippage in these data, particularly in sites such as general hospitals without psychiatric units, where psychiatrists and psychologists may be less available for consultation. However, diagnosing a primary mental disorder as physical is more likely than the reverse. The potential for diagnostic error is not bilaterally equiprobable. On these grounds one might consider these national data estimates as fairly conservative.

Certainly research is needed regarding professional issues that result in the decision to hospitalize someone (Kiesler, in press; Mechanic, 1981). This discussion does not seek to assign professional blame. Insurance incentives often allow no other option (Kiesler, 1981a, 1981b); the patient's family is often the most important force behind the hospitalization (Mechanic, 1980); there is perceived administrative pressure to fill hospital beds, and since mental patients stay longer than other patients, hospital administrators find them a financially stable subset of patients to maintain. Physicians often hospitalize people for mental disorders either because they see no alternative, they are uncertain of what else to do, they wish to observe the patient for a few days, or they wish the patient's activities to be tracked more closely by paraprofessionals. The general set of activities leading to mental hospitalization (including professional judgment; treatment during the period immediately following hospitalization; the self-fulfilling prophecy of defining oneself as mentally deranged; and variables which lead, correctly or incorrectly, to a professional's judgment that certain types of patients need hospitalization) needs to be investigated directly and thoroughly. Kiesler (1982) describes several studies in which there was significant resistance from professional staff to the notion of alternative treatment. Indeed, if one is convinced that mental hospitalization works and alternative treatment does not, it can be seen as a matter of professional ethics to oppose anything but mental hospitalization.

Mosher and Menn (Note 4) discuss factors promoting the resistance to change of policies implicitly supporting mental hospitalization. They point specifically to the zeitgeist of the medical model, with its emphasis on "illness" and drug treatment, in which hospitals play a central conceptual role. Further, they suggest, the zeitgeist influences fiscal intermediaries to such an extent that no third-party payers in the United States are willing to underwrite alternative modes of care.

Mosher (1982) describes the most revolutionary approach to system change. In 1978, Italy passed a law requiring that no new patients be admitted to large state-run hospitals, that the hospitals be phased out, that patients not be involuntarily hospitalized in such facilities, and that community-based facilities be established in each geographic area. Although some problems of implementation remain, Mosher (1982) gives a very positive evaluation of the first years' experience: "1) an 18% decrease in the number of inpatients; 2) a 60% decrease in compulsory admissions; 3) little evidence of 'dumping'; 4) no increase in suicide or violent crimes by former patients; and 5) no appreciable difference in admissions to private psychiatric hospitals" (p. 202). The Italian experience appears very promising as a model for a national policy emphasizing noninstitutionalization and alternative care.

Various sets of data regarding attribution theory, attitude change regarding involving issues, and judgment and decisions under uncertainty all suggest that professionals develop strongly held beliefs about mental hospitalization that are not empirically based but at the same time are extremely difficult to change. Psychologically, one can expect resistance to change and aroused reaction to an affect-laden issue. Mental hospitalization, partly because of its long history and partly because of its perceived integration with health policy, appears to be one of those issues.

Dispassionate discussion of the pros and cons of mental hospitalization is difficult. One can expect for a variety of reasons that it will be difficult to change national policies related to mental hospitalization. Certainly the scope of policies that need be changed is sufficiently broad to make the task difficult even if the issue were less affective in nature. Indeed, perspectives are so substantially different on this important area that the debate often centers on what is knowledge.

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Dr. KIESLER. Thank you, Senator. For the last 5 years, my research interest has concentrated on national mental health policy, particularly analyzing the national data base with regard to mental hospitalization.

I am currently involved in research comparing the treatment of mental disorders in general hospitals that do and do not have psychiatric units. With a grant from the National Institute of Mental Health, we are reanalyzing several large national surveys of the National Center for Health Statistics and completing a study of psychiatric admissions in several Pittsburgh area hospitals.

In our reanalysis of the national data, we find that there are a number of misconceptions among mental health professionals and the general public regarding mental hospitalization in the United States today.

For example, our reanalysis of these data leads to the following conclusions:

First, while it is commonly believed that we are putting fewer people into mental hospitals than ever before, we find that the rate of episodic hospitalization for mental disorder has been rising at a fairly rapid rate over the last 15 years. All of the increase in rate is due to treatment in general hospitals without psychiatric units. Today, 40 percent of all inpatient episodes for mental disorders occur in such hospitals. My calculations lead me to believe that the direct charges for psychiatric care in general hospitals, both those with and those without psychiatric units, approaches $6 billion per year.

Second, many people believe that mental hospitalization is a fairly trivial part of our overall national expenditures regarding hospital treatment. I have rarely seen mental hospitalization discussed in discussions of hospital cost containment, for example. However, our analyses show that 25 percent of all hospital inpatient days in the United States are for mental disorders. This figure has been going down. Thirty years ago, it was over 50 percent. However, it still represents a large and substantial proportion of total hospital care in the United States.

Third, many people believe—and this includes the general public and mental health professionals—that mental hospitalization is the most effective treatment for the people who utilize the service. That is, the few people we are hospitalizing are correctly placed, because no alternative exists to treat them more effectively.

Let me say that the data are very clear on this issue: traditional inpatient care for mental disorders is neither the most effective nor the most cost-effective method of treatment. Recently there have been three major reviews of the evidence on this issue, including my own. These reviews concentrated on studies with random assignment. That is, patients with serious mental disorders were brought to a hospital and were randomly either to enter the hospital for treatment or to be assigned instead to another form of treatment outside of a hospital. My own review located 10 such studies, and I have since located 4 others. These studies were independently carried out by a number of researchers around the country over the last 20 years. The alternative care varied a great deal but concentrated on psychological and social interventions usually with some medication.

In none of these cases has mental hospitalization produced better treatment outcomes than any alternative care. In every study, differences favor the alternative care rather than mental hospitalization, in terms of psychiatric symptomatology, ratings by family, probability of being able to locate or maintain a job, subsequent hospitalization and the like.

In every case where there has been a systematic calculation, the alternative care was less expensive. In one very careful study carried out by Blue Cross/Blue Shield, the alternative treatment was substantially more effective than mental hospitalization and 40 percent cheaper.

Our national practice of increasing mental hospitalization flies in the face of available scientific evidence.

I mention in my formal testimony a number of reasons which inhibit a change in practice, but I'd like to mention two others today. One is that there is simply a lack of appropriate funding for alternative care, whether for the noninstitutionalized patient or for the deinstitutionalized patient. Programs for public funding have largely failed to use the data gained from various alternative care programs.

There also continues to be strong financial disincentives for outpatient treatment of serious mental disorders. Both public programs and the private programs offer inpatient care for mental disorders at little or no cost to the patient but demand substantial copayment for outpatient care.

A good example of how alternative care programs might be developed is provided in your State, Senator, by Drs. Leonard Stein and Mary Ann Test at the Mendota Medical Health Institute, which also did one of the 10 studies that I mentioned before. In what is called the Community Living Program, the therapeutic staff assist the patients in their homes and neighborhoods and train them in daily living activities such as laundry, shopping, cooking, budgeting, and the use of public transportation.

Under certain circumstances, the patients are hospitalized for brief periods of time in crises. Medication is used very sparingly. This program has been demonstrated to be effective and has been copied elsewhere in the State of Wisconsin. Indeed, the State of Wisconsin is one of the few States that has been able to significantly lower both the inpatient admission rate and cost per episode of care of mental health patients.

It seems to me the critical element in the Wisconsin example is the direct attempt to reduce the incentives for inpatient treatment. This is accomplished by placing all public funds for mental health treatment in one central source—the county. This produces strong incentives for promoting the most cost-effective treatment, since both the cost and the savings are seen by the same administrative unit.

This example has implications for national policy changes. For example, Medicaid is the largest single payer for mental health care in the country and that fact deserves acknowledgment by the Congress. Most of the costs of Medicaid represent inpatient care for mental health care. In fact, under the Carter administration, the Federal Government was unintentionally spending more on inpatient care through the Medicaid system than it spent on the whole community mental center system that was its major priority. All of these considerations lead me to suggest three major approaches to changes in Federal policy which should enhance both the effectiveness and cost effectiveness of mental care in the United States. They resemble some that have already been mentioned.

One is to develop a better national data base, particularly regarding the outcome of treatment. This demands research in which individual patients are tracked across time. We have heard a little about that.

Two, we need to better understand the effects of different systems of service delivery and the effects of health insurance coverage, both public and private, on the utilization of services.

Three, we need to promote the use of the Wisconsin experience and that of other places testing the effects of channeling all public funds to a single administrative unit such as the county. We need to promote demonstration projects, research, and conferences promoting cooperation between the public and private sectors.

There exists effective systems which will work, both in the public sector and the private sector. There has been a lot of public outcry in recent years regarding treatment of people with mental disorders, including the homeless and those in nursing homes. For a group which accounts for 25 percent of all inpatient hospital days in the United States, the problems of the mentally disturbed have been remarkably kept in the closet. I think it's time for serious national discussion and consideration of dramatic changes in public policy.

Thank you.

Senator PROXMIRE. Thank you very much, Dr. Kiesler.

Dr. Wennberg, you have patiently listened to witnesses who have supported and criticized your proposals.

Do you have any general observations you would like to make before we get into specific questions?

Dr. WENNBERG. I thank you for the opportunity. I think the one thing that sticks in my mind is lack of enthusiasm for taking on the problem of outcome assessment without——

Senator PROXMIRE. Taking on the problem of what?

Dr. WENNBERG. Of outcome assessments. I heard a statement that it costs an awful lot, and it does. But it costs an awful lot not to know what is going on. A few years ago, I calculated how much it costs at the national level at the low rate or the high rate, and the interesting thing was that the difference between the high rate and the low rate was something like $6.8 billion in 1975, and that was for the entire investment of the Federal Government in the NIH.

So I'm pointing out to you here the existing patterns of practice on such a costly difference, in terms of their possibilities that we simply need to invest the money of the order I ask.

Incidentally, in my testimony today, I opted for half this sum—50 percent—but something along that line with a steady stream of incomers that will enter this area so we can build the whole capacity to analyze out. I think it's extremely important, and I hope that point in my testimony is not lost.

I want to emphasize also that it's costly in terms of lives. Dr. Bunker was mentioning the differences in our original point that high rates of surgery conceivably could be lowered by education. Let me give you an example of prostatectomies which was raised several times. He calculated the low rates of prostatectomies or the norm that we would lose approximately 1,500 people per year in this country to that operation. But at the high rate or the norm, that figure approaches 7,000. That's a lot of deaths.

Senator PROXMIRE. Give me those figures again.

Dr. WENNBERG. Approximately 1,500 people would die in the postoperative period, if the low rate were the average for the country.

Senator PROXMIRE. For prostatectomies?

Dr. WENNBERG. For prostatectomies alone.

Senator PROXMIRE. 1,500 compared to——

Dr. WENNBERG. Approximately 7,000.

Now I didn't bring those numbers, but I will submit them for the record.

But the point here is that if we have that kind of a difference, if we noticed that kind of difference in traffic accidents or any other thing, we would be extremely interested to try and find out what's going on. And I submit that we need to take these statistics seriously and mount a strong effort on the part of the Federal Government to find out what is going on, because, remember, most of these prostatectomies are funded by the Medicaid Program.

Senator PROXMIRE. Thank you, Dr. Wennberg.

I have one other question for you. In your prepared statement you indicated, and I quote, "Well defined scientific norms simply do not exist to delimit the practice options physicians select to treat" a number of maladies, including the option of coronary bypass surgery. As you know, the Heart, Lung, and Blood Institute has supported a study of coronary bypass surgery indicating that this procedure is overutilized.

What more needs to be done to optimize practice patterns in this area?

Dr. WENNBERG. I think that in my testimony I qualified my statement to say that we have a great deal of uncertainty about that procedure for use following a myocardial infraction, which is a new use adjustment in place, which has not had a trial. That is one of the few conditions in which there has been a substantial effort to find out what is going on.

We need to do two things. I think we need to keep up with changing clinical hypothesis about how this operation can be used. And this is the example I give in my testimony concerning this use.

The second thing we need to do is disseminate the existing information as was mentioned by the other people today.

Senator PROXMIRE. Thank you.

Dr. Bunker, in your prepared testimony, you referred to the substantial risks that go hand and hand with elective surgery and drug use. In March 1981, an article appeared in the New England Journal of Medicine discussing the findings arising from a study of iatrogenic illness occuring in patients at a tertiary care university hospital. As I understand, iatrogenic illness is a term meaning an illness resulting from medical treatment rather than a preexisting condition. The study found that 36 percent of 815 consecutive patients on a general medical service of the university hospital had an iatrogenic illiness and that in 9 percent of those patients the incident was life threatening or produced considerable disability.

Do you think the study indicates that there is a high level of risk in all hospitalizations or is it impossible to draw that kind of conclusion?

Dr. BUNKER. No; I think that is exactly the point that I was making earlier in the hearing today. I believe that together with our optimism as to the benefits of treatment we physicians tend to underestimate the risks.

I think this is inherent in our philosophy. It's a reflection of inadequate data. I touched earlier on the question of patient preferences. There are a series of new studies on patient preferences and there are two or three groups of psychologists who are looking into patients' preferences.

I am convinced, risk preferences of the public being such as they are, that with better information, patients may take a different view of medical and surgical intervention, as I suggested earlier. To illustrate this, let me offer an anecdote. My dad died at the age of 91½. He had several surgically treatable lesions, and he had the fortune or misfortune, depending on one's point of view, to have a son who was a physician and who was thinking about these things. So he and I sat down and spent many long hours talking about possible surgical procedures, and we decided not to do any of them. And I think that really was his preference. I don't think it's necessary to have access to that much information to be able to make those decisions, however, but perhaps it was helpful in his case.

Another example I'd like to bring to the attention of the subcommittee is that of the midpeninsula health services in Palo Alto. It's a very small, patient-controlled, Cooperative Health Program set up in 1976. It was intended to be set up on a prepaid basis, but the physicians setting it up couldn't afford the capital investment required, so it was ultimately begun on a fee-for-service basis. The goals of the midpeninsula health service, as endorsed by the patients themselves as their own policymakers, are to keep people out of the hospital, to emphasize self-care, home care, and hospice treatment. And, despite fee-for-service reimbursement, they have been able to maintain a utilization rate about one-half that of prepaid practices such as Kaiser–Permanente.

In other words, it can be done. Control of utilization rates does not have to be linked to the change in reimbursement of physicians. I don't believe that how you reimburse the physician has no role. I believe it does, but it's by no means the only factor.

Senator PROXMIRE. Thank you very much.

Mr. Goldbeck, do you think any useful purpose would be served by releasing to the public information on doctors who extensively use surgical procedures so that patients could consider whether or not they should seek a second opinion if surgery is recommended by high use doctors?

Mr. GOLDBECK. Absolutely. It does not bring with it a finite outcome. We don't know whether patients will behave intelligently in the presence of information or not. There's no reason not to presume the spread or the curve, if you will, of intelligent response to new information would be like that of any other area. Some patients will question their physicians; some will behave as they would in the absence of information; others will behave quite differently.

The point is that the patient population, whether it is individual, freestanding people such as you and I, or patient information provided to lawyers and unions and Government agencies—hospitals, for that matter—have the right to be informed.

It is far preferrable to have a group of patients behaving in an unintelligent fashion in the presence of information than simply in the presence of ignorance.

Senator PROXMIRE. Thank you, sir.

Dr. Dehn, in the report of the private sector task force on PRO implementation issued last year, the stated purpose of PRO's included, quote, "review of medical services * * * relating to medical necessity and appropriateness of care setting," and, quote, "examination of the medical care delivery system * * * through data analysis and comparison of varying practice patterns." Close quote.

What steps have PRO's taken in order to achieve these purposes, and have they been effective in producing useful information regarding variations in medical practice patterns?

Dr. DEHN. I think, Senator, I will take those one at a time. The existing PRO Program has been in existence for about 6 or 7 months, and so the PRO Program has really not had an adequate chance to really shake out in terms of their effectiveness in review of all care settings.

I might say though that with regard to the second portion of your question—that is, the accumulation of data—I was able to show you here today just on the basis of several computer runs over a few hours the kind of data that's available and on which we can base, we hope, some conclusions.

I would be a little remiss if any of us left this room thinking we had adequate funding—an adequate opportunity—to review the appropriateness in all care settings, because, as it stands now, the PRO Program is directed only toward institutional settings and that, theoretically, by constricting use of institutional settings, we will be able to shift the delivery of health care into the ambulatory care setting.

I'm worried that this might be the Chinese pillow, and by leaving review in the ambulatory setting uncovered that we will begin to see inappropriate utilization in that setting that we did not see when we were not constricting the use of the acute care setting.

The point is that the mandate is for review of appropriateness in all care settings. We only have the funds and only have the directive to review in the acute care setting, and with that restricted mandate, we, unfortunately, do not have the opportunity to answer some of the more important questions as Dr. Wennberg's work and Mr. Goldbeck have posed to us today.

I think, with adequate funding, we can do it.

Senator PROXMIRE. Dr. Davis, Dr. Wennberg referred in his written statement to a prospective evaluation by Maine urologists of the response of patients to prostatectomies undertaken for benign prostate enlargement in order to document the changes in morbidity and functional status that relate to the operation.

Are you aware of other similar studies by the medical profession?

Dr. DAVIS. Yes; I am. There are other studies. I am not sure they have been as conclusive as the one that Dr. Wennberg has emphasized but, certainly, there's quite a variance in how prostatectomies are done, in what stage of life, and how frequently they are performed.

Senator PROXMIRE. Do you believe the Maine approach is desirable and that similar evaluations by other State and local medical groups would be appropriate?

Dr. DAVIS. Yes, sir; I do. And I think it is very encouraging and very rewarding to see that once physicians find out their activities have been inappropriate as compared with their peers, they respond very appropriately and very effectively, and change their way of practicing medicine.

So I am led to believe the great majority of physicians act in good faith and try to choose the appropriate therapy for their patients. When it is pointed out to them, particularly by their peers, that there is a better way; then they are very apt to adapt.

So I think the studies do have great merit and will result in a decreased variance in the way medicine is practiced in this country.

Senator PROXMIRE. Do you agree that there's a psychological tendency for doctors to have an optimistic upbeat feeling about operations and that they proceed to operate because they assume the surgery is going to be desirable and useful?

Dr. DAVIS. I agree with Dr. Bunker that we physicians tend to be optimistic. But, at the same time, physicians are well aware of the results to be expected from the procedures that they are about to perform. They really don't go unbridled in their enthusiasm to help the patient. They are well informed. Physicians make well-informed judgments on the evidence as it is available.

I think what we are pointing out today—and all of us agree, I believe is that we need further work to ascertain more definite outcomes of many treatments.

Senator PROXMIRE. That's very, very encouraging to hear from you representing the American Medical Association, and I think that's a very wise statement. There seems to be a concensus—and maybe the witnesses here would disagree, but I think we get a general assumption that we do need more data. And if there is more data, then these procedures could be done in a more effective way both from the standpoint of health, and, certainly, from the standpoint of cost.

Dr. DAVIS. We, of course, must enter this with an open mind and not necessary believe the low-admission rate is the best way. But if it is studied impartially then we will determine where in the scale of variance we should be operating.

Senator PROXMIRE. Dr. Kiesler, you correctly point out in your prepared testimony that it is difficult to reduce the hospitalization of mental patients when both public and private insurance programs provide greater coverage for inpatient care.

However, could it be argued that more comprehensive outpatient coverage would actually increase total treatment costs by encouraging people who otherwise would not have sought any treatment whatsoever to see their doctor?

Dr. KIESLER. Well, I think the data in the Rand experience and with others suggests that people seeking mental care respond more or less as people seeking health care. That is, if you have a more liberal health insurance policy and you get somewhat more, you end up, I think, getting somewhat more care in the system.

But the major thing is that the cost of inpatient care for mental disorder is so much more in the hospital than out of the hospital that you could even have somewhat more care and still have it be much more cost effective.

Senator PROXMIRE. Mr. Goldbeck.

Mr. GOLDBECK. Your question there raises, I think, a very important point because it suggests the economic equation should only be the aggregate cost of those procedures. One of the reasons there are businesses today pursuing what would appear to be more liberal mental health policies in the face of increasing costs is that the cost equation is not medical dollars only; that same cost equation includes reducing absenteeism, less turnover, higher productivity, reduced disability and workers compensation, greater morale, and so on and so on.

The list is very long.

Senator PROXMIRE. The costs you elucidate here are probably greater than the costs of medical treatment.

Mr. GOLDBECK. Obviously. And the disability cost alone is staggering. You take a hernia case when you're deciding to reduce it from an inpatient to an outpatient case. It may take 4 or 5 and, in some areas, 6 days of inpatient care.

By the same token, you are reducing disability from an average of 6 to 8 weeks down to an average of less than 1 week. So the cost differential is staggering. And my only point in tossing this in is to suggest having the committee and the staff look at the economic issues. It's not only worth looking at the aggregate unit costs of the medical care per se but, in fact, all the related costs that often will lead you into a different purchasing division.

Senator PROXMIRE. Thank you very much.

Dr. Wennberg, Dr. Davis, in his prepared statement, cited the efforts being made in medical schools across the country to incorporate cost containment and other economic issues into the curriculum.

On the other hand, you have been concerned about the lack of attention given by medical schools to disciplines that deal directly with the problems of clinical decisionmaking and evaluating health care outcomes.

Don't these two disciplines—cost containment and clinical decisionmaking—complement each other? And isn't it difficult to have a successful program in one of the two areas without devoting resources to both areas?

Dr. WENNBERG. Yes; I agree with you. My emphasis here has been—I think it's true that medical schools are beginning to teach cost containment as a problem. But what they don't do very well is teach medical students how to make decisions when the probabilities are at stake.

The question is what is the probability of this happening and that happening. And to do this, one really needs to have a basic training in statistics and also in clinical decsionmaking. And this kind of training simply is not the routine in American medical schools at this time. And I mention this because I am concerned that if we really begin to put all the emphasis on the outcome assessment question, we will have to look to the medical schools for two things. We are going to have to look to them for leadership in the design of studies, so that the studies are done right; and, second, we need to look to them to train future physicians so that they are better able to make decisions that involve uncertainties and make cost-effective decisionmaking.

Now to the extent that overlaps with the current cost containment concern, as it certainly does, I agree those issues are the same.

Senator PROXMIRE. Dr. Bunker.

Dr. BUNKER. The American Association of Medical Colleges has recently released a report based on an independent study of medical education that has been carried over the last 3 years. In their report they call attention to this very fact. There is a growing appreciation of our failure to train medical students in problem-solving, and in probability theory and biostatistics. Perhaps we can look forward over the next several years to a complete restructuring of how we teach medical students: rather than simply providing students with a vast accumulation of facts, we should help them to build a decisionmaking structure in which they learn how to solve problems. And then the necessary facts can be built into the problem-solving format.

The law and business schools—at least, many of them—have gone through this process and shifted their whole approach. It isn't absolutely clear that we can do it in medicine, but there is a growing awareness of this as an important problem that needs to be solved.

Senator PROXMIRE. That's very interesting.

Dr. Bunker, in your prepared statement, you referred to a study that concluded the removal of the gallbladder for asymptomatic—without symptoms—gallstones will increase life expectancy by no more than a week or two, and perhaps even decrease it.

Has the study had an appreciable effect on the use of this procedure?

Dr. BUNKER. I called the National Center for Health Statistics 3 days ago and asked that question. They tell me that the rates for gallbladder surgery have been essentially unchanged over the last 7 years.

I think, in all fairness, I should point out that possibly as few as 5 or 10 percent of all cholecystectomies are carried out for asymptomatic gallstones. So, perhaps the potential savings are not large.

Nevertheless is an interesting example of the use of decision theory—decision analysis. It is an example, as I think I indicated earlier, of how existing data can be used to come to important clinical policy changes.

Senator PROXMIRE. What, in your view, is the best way of seeing that such findings such as those arising from the gallbladder study have a positive impact on practice patterns?

Dr. BUNKER. Well, I hate to say we're going to have to wait for a whole new generation of medical students to learn probability theory and decision analysis. It is, of course, an important point. The other point I made earlier was the need to involve the patients themselves. I think patients must be at least partners in the decision process. This issue has arisen as a result of the recent informed consent initiative. I think, at the moment, the informed consent process has been implemented largely as a mechanism for legal protection rather than one to involve patients in the decision process. I think that there is a growing involvement of patients, however, although it varies considerably from community to community.

I believe we must involve the patients much more widely, and I think Mr. Goldbeck's testimony very much supports that notion.

Senator PROXMIRE. Dr. Davis, in your prepared statement you referred to the AMA's diagnostic and therapeutic technology assessment project, known as DATTA. You indicated that through DATTA evaluations, the AMA is working to clarify questions relating to the efficacy of new and existing medical technology and procedures.

To what extent is DATTA supporting longitudinal outcome studies of the sort referred to by Dr. Wennberg?

Dr. DAVIS. We are really approaching this matter from a different angle and see the problems as requested from different individuals, institutions, insurance carriers, and others to look into the efficacy of already existing or newly proposed procedures, but we are not using the same methodology as Dr. Wennberg at all.

Senator PROXMIRE. Dr. Kiesler, in your testimony, you state that several studies have been conducted regarding inpatient versus outpatient care for mental disorders, and in every study differences favored alternative care rather than hospitalization, in terms of both treatment effectiveness and cost effectiveness.

Dr. KIESLER. That's correct.

Senator PROXMIRE. If findings of this sort were made readily available to mental health professionals, do you feel this would have an effect on patterns of hospitalization for mental disorders?

Dr. KIESLER. I think it has led to more controversy than an effect in patterns of hospitalization. Part of the difficulty is that hospitalization is a standard practice in mental health, and has been for 150 years. The other part is that people feel they don't have anyplace else to put these patients. That is to say they can have their treatment funded in a hospital and not funded out of the hospital, and they feel forced to put them in a hospital. I think Mr. Goldbeck's comments about looking at outcome research would be the proper thing here.

If we are going to do a study on this, as we have been talking about, it should be on health and mental health because recent research has shown a close relationship between these issues, and we are making judgments as if they were independent.

Second, we should have a notion of outcome effectiveness that transcends simple wellness in terms of health and mental health, but includes the notion of productivity, absenteeism, probability of finishing school, alcoholism, and the like. That sort of wholistic approach will show the clearest effectiveness.

Senator PROXMIRE. Mr. Goldbeck.

Mr. GOLDBECK. In response to your specific question, I think there are at least six steps that would be involved in the dissemination process. One you've heard, which is the education for physicians and, certainly, the AMA is correct. Dr. Egdahl's work and others show that there will be progress through educational exchange. Both educational meaning in terms of medical school, but also in terms of reeducating those out in the field. And, obviously, that is critical if we are not to do as Bunker suggests, have to wait for another generation.

The second is to further the conduct and dissemination of research projects of the kind Jack is doing, or the kind being done at Duke by Dr. Eddy, which is research into the decisionmaking process and how new techniques can improve that process itself, the generic process by which decisions are reached.

Three is the involvement of patients in a wide range of ways; in understanding the medical care delivery system. We are constantly putting ourselves another generation behind by having people entering the work force, or the welfare role, or the medicare role with absolutely no knowledge of the medical delivery system or their bodies or of health and their choices. We need to make partners out of patients.

No. 4 is to involve the purchaser more aggressively and more responsibly.

No. 5 is the unavoidable one of tying some of these to extra reimbursement. It does not mean to say the pecuniary interests are the only motivating force. But I don't think anybody is going to be quite so naive as to appear before the Appropriations Committee and suggest that money has nothing to do with decisionmaking. And that's true within the medical profession as it is with all others.

When reimbursement is provided for a procedure to be done in one setting, it is done there. When reimbursement changes, it is amazing how providers find a reason to move the setting overnight.

One way to speed up the process of disseminating new, effecient methods is to change the reimbursement. And this is amply demonstrated now, not only in the short-term result of DRG's but in the long-term result of private sector changes in reimbursement policies to increase the use of ambulatory care, precertification, and second opinions.

No. 6 and last is to recognize that there is going to be a greater opportunity to disseminate through telecommunications than we ever had before. We tend to look back and think how did the decisions and the new discoveries in 1975 get out into the system. But, in 1995, every physician is going to have access in his or her office to every single medical development within a matter of days from when it takes place. That brings with it a whole new set of concerns and the problems.

But as we look at the ways of dissemination and what is to be disseminated, we need to keep in mind what the technological methodologies are going to be common but are outside the normal developments within medical care itself.

Senator PROXMIRE. The other night I was listening to a debate on public broadcasting, and one of the witnesses pointed out that one of the problems that American automobile makers have in competing with the Japanese is that fringe benefits for health in Japan are about $800 per worker per year while for Americans—for the Chrysler Corp.—it's $5,000. I don't have any data, of course, but maybe you gentlemen have, on the difference in health care costs or longevity in the two countries. I suspect there's not much difference.

At any rate, before I recess the hearings, are there any final comments anyone wants to make?

Mr. GOLDBECK. If I might at least get that one to the point of accuracy in the numbers. The Chrysler costs were widely reported as being somewhat in excess of $6,000. These came from the aggregate of all the retiree cost and the dependent cost allocated to the employees. The real per employee cost by itself is, roughly, $3,250, which is by no means cheap. And, clearly, it illustrates a major problem vis-a-vis the Japanese, but it's not double.

Senator PROXMIRE. I'm delighted you corrected me. Believe me, I am. The Chrysler costs are still four times as great.

Mr. GOLDBECK. Absolutely. It in no way diminishes your point.

Senator PROXMIRE. And the reason I bring that up is because we can always expect that although the cost of medicare and Medicaid is great, the cost of medical care in the private sector is probably greater—substantially greater—than it is to the Federal Government. And the cost to the whole economy is immense.

Well, before I recess the hearings, do any of you have any final comments you want to make?

Dr. BUNKER. May I comment on some of the other things that we might do that would save us money perhaps, and maybe even improve the health of our population?

Senator PROXMIRE. Fine.

Dr. BUNKER. First of all, I would like to comment—and I do so on page 6 of my prepared testimony—on the overlap of missions of NIH and the National Center for Health Services Research.

NIH's main mission, as we all know, is basic research. And I would point out and add my support to, if it should be useful and necessary, the prospect of basic research in solving the biologic and medical problems it addresses. I was delighted to hear Dr. Gordon's comment about the prospect of new solutions to prostatic disease. This falls right in line with Lewis Thomas' comments some years ago. Lewis Thomas talked about half-way technology, as many of you remember, and he considers many of the things we do as falling into that category. Prostatectomy might well be included.

Thomas points out that when we find real solutions they are apt to be relatively simple and they're apt to be cheaper. I can't promise we are going to save money through basic research, but I certainly look forward to that possibility with great hope.

I think we can also expect to save money through increased investment and effort in prevention. We know that we can save money in the short run by preventing disease, by, for example, decreasing smoking habits of the population.

I would like to point out, however, that there is another side to the cost-saving potential of prevention. That is that if we do save on medical expenses by preventing disease, we will, by keeping patients alive longer, ultimately cost the Government and others even more money in retirement benefits.

And I do think it is terribly important, when we are considering health costs, that we consider other social costs at the same time. Retirement policies are tremendously important to be included as part of this overall health cost debate.

Let me return for just a moment to NIH and NCHSR.

NIH has, as part of its responsibility, the support of randomized clinical trials to determine the efficacy of medical procedures.

NIH, in its clinical trials, will come up with results which presumably reflect a new treatment or a treatment under optimal conditions, say, in one of our research hospitals. Equally important, I believe, is to know what happens when the new treatment diffuses into clinical practice. We cannot assume that the results in clinical practice will be the same, and Dr. Thomas Chalmers at Mount Sinai has shown, at least for coronary artery bypass grafts, that the results for New York State, as a whole, are very different from those in published randomized trials. In short, the randomized trials had better results than what happened in general clinical practice.

We need to know what happens when medical treatments are diffused throughout the population. We need to have so-called postmarketing surveillance, not only of drugs but of medical procedures, and that's one of the things we have been talking about today.

While NIH has responsibility for determining efficacy, NCHSR, now NCHSRTA, has the responsibility for evaluating procedures when they get out in clinical practice. NCHSR must also assess the economic, ethical, social, and psychological impact of medical practices and must play a leadership role in translating research findings and information to meet the needs of medical practitioners. And I think it's only fair to say that the brilliance of the accomplishments of NIH have been matched by the Government's failure to provide adequate support for the efforts which NCHSR makes.

I have been intimately involved in NCHSR activities over the last several years and have the very highest regard for what has been accomplished in their efforts. But I think it has really been grossly undersupported for the enormous task which lies ahead, if it's going to fulfill its mission.

Two other small points. I do think we train too many doctors, and I agree with the widespread view that we train too many specialists. I don't believe we're ever going to be able to solve the problems we have been discussing today, unless we have a somewhat better handle on how many doctors we train in this country and how they spend their time.

We allow doctors to enter any specialty that they choose and hospitals, of course, fill their residencies on the basis of service needs and not on the basis of the needs of the country.

Senator PROXMIRE. Thank you.

Dr. Davis, you had a statement?

Dr. DAVIS. Mr. Chairman, lest anyone infer erroneously that physicians are not very much in favor of an informed patient, an informed populace, let me say that physicians always prefer to have well-informed patients and well-informed families, with which to work. The work is more satisfactory and more efficient. Physicians individually and collectively are informing patients, communities, and society—in general more thoroughly than ever before. Public forums, television programs, call-in telephone lines, newspaper columns are common across the country, as the profession is trying to educate the general population more thoroughly about health matters.

And at no time in our history has the public been more interested in health information, wanting to know about how they can take better care of themselves. The profession is saying to the public, you've got to participate in the care of your health and the protection of your health—avoiding self-abuse. You've got to work with me in preserving your health more than you ever have before.

We're saying to them, you've got to participate in the financial arrangements for your care with a doctor—first dollar payments deductibles and the like.

We feel an obligation to keep the public informed. The profession wants a very well-informed American public.

Senator PROXMIRE. Thank you very much, Dr. Davis.

Dr. Dehn?

Dr. DEHN. I have a very brief comment. From the standpoint of the PRO Program, it is a problem if we're going to look at some type of long-term solution which is relatively esoteric and demands a fair amount of review in the outpatient setting.

I don't think we have the money to do it. You have heard several speakers today comment about the lukewarm support that this administration has provided to good effective peer review. I would request your consideration and the committee's consideration of this in the future, because I think it's a good short-term investment with long-term gain, with potential for improving efficiencies in health care delivery.

Senator PROXMIRE. Thank you, sir.

Let me conclude then by saying this has been an extremely productive hearing. It has demonstrated that there is a great potential for substantial medical care cost savings, if we invest more of our time and resources in finding out what we are buying with our medical care dollars. I would hope that that priority would be reflected in the President's January budget request. I will certainly do my best to see this committee gives the practice pattern variation issue a high priority in making its funding decisions next year.

I want to thank you gentlemen for devoting your valuable time to a discussion of this issue.

ADDITIONAL SUBMITTED MATERIAL

The subcommittee has received additional material subsequent to the hearing which will be included in the record at this point.

[The information follows:]

LETTER FROM SENATOR WILLIAM PROXMIRE

December 13, 1984

Jay B. Cutler, Special Counsel
and Director,
Division Government Relations
American Psychiatric Association
1400 K Street, N.W.
Washington, D. C. 20005

Dear Mr. Cutler:

It was good of you to submit a list of conditions under which it would be appropriate to hospitalize psychiatric patients.

I'm sure that this information will provide a useful counterbalance to Dr. Kiesler's testimony. Let me assure you that your letter will be made a part of the hearing record.

Sincerely,

William Proxmire, U.S.S.

LETTER FROM JAY B. CUTLER, SPECIAL COUNSEL AND DIRECTOR, DIVISION GOVERNMENT RELATIONS, AMERICAN PSYCHIATRIC ASSOCIATION

December 4, 1984

The Honorable William Proxmire
Subcommittee on Labor-Health & Human
Services - Education Appropriations
United States Senate
Washington, D.C. 20510

Dear Senator Proxmire:

The American Psychiatric Association (APA), a medical specialty society representing over 30,000 physicians nationwide, has noted with great interest the recent hearing to explore "the extent to which Medicare and Medicaid costs can be cut, without slashing benefits, by sharply reducing unnecessary hospitalizations."

The question of variation in medical practice -- (including the applicability of this issue to psychiatric hospitalization) -- is a valid one for further study. While no medical witness addressed this issue with respect to psychiatric hospitalization, we are concerned by the inferences in the statement of the witness from the American Psychological Association regarding mental illness hospitalization. Although he did admit for the cited Wisconsin study that "Under certain circumstances, patients are hospitalized for brief periods of time in crises" he appeared to wish to give the Committee the impression that mental hospitalization was neither necessary nor appropriate.

We believe it helpful for the Committee to know the APA believes there are reasons for an initial admission or continued hospitalization of a psychiatric patient. These include:

* Actual or potential danger to self, others, or property;
* Inability to tolerate outpatient treatment;
* Incompletion of planned treatment components, i.e.
    - -- drugs,
    - -- integrated therapy,
    - -- community reintegration, and
    - -- other, as specified by the physician;
* Psychiatric or other medical complications;
* Intensification of illness;
* Change of diagnosis or treatment failure necessitating a change of treatment plan;
* An inability of the patient to care for himself or to function in daily routines. (Continued hospitalization must be supported by strong expectations that the individual will resume responsibility for self following appropriate treatment.);
* Continuation of maladaptive behaviors;
* Cited treatment plans have not been fully completed;
* Persistence of symptom-behavior of such severity that it requires continued supervision and hospitalization.

The necessity for and extent of the inpatient care must be carefully measured against this set of criteria and this is exactly what psychiatric peer reviewers across the country are doing. Successful psychiatric peer review programs across the country have already created and sustained an environment where quality cost-effective psychiatric practice is the norm by involving practicing psychiatrists in the examination of patterns of utilization in their own communities. We want you to know that the American Psychiatric Association has demonstrated its ability to evaluate the medical necessity and appropriateness of psychiatric treatment. These evaluations are the cornerstone of the profession's accountability to patients and payors. The success of the APA peer review program indicates a growing determination on the part of all concerned to provide quality psychiatric care that is reviewable, predictable, controllable, and affordable.

We appreciate this opportunity to clarify the hearing record.

Sincerely,

Jay Cutler

Jay B. Cutler
Special Counsel and Director
Division Government Relations

MATERIAL SUBMITTED BY SENATOR DAVE DURENBERGER

DataWatch

This DataWatch section contains two studies: first, Walter McClure and Dale Shaller of the Center for Policy Studies present data on variations in Medicare expenditures per beneficiary; next, Joseph Restuccia, Paul Gertman, and fellow authors from the Boston University Medical Center provide a comparative analysis of appropriateness of hospital use.

Variations In Medicare Expenditures Per Elder

Increasing national concern over rising health expenditures has generated substantial interest in assessing the efficiency of medical care providers. A growing body of research suggests that provider efficiency varies greatly. If this is true, then policies encouraging more cost-effective practice styles can lead to expenditure restraint without restricting the quality or availability of medical care. Hence, research and data bearing on the extent of provider inefficiency in the health care system are of crucial interest to national cost-containment efforts.

In this article we present data on variations in Medicare expenditures per beneficiary among selected metropolitan areas. These data are consistent with evidence of wide variations in provider practice style and efficiency. We briefly review the nature of provider efficiency and possible explanations why per capita medical expenditures vary among populations. The data on Medicare expenditure variations are then presented, followed by a short discussion and summary of their implications.

Efficiency As Expenditure Per Capita

Provider efficiency can best be measured as the average expenditure per capita necessary to produce a given level of health improvement in a population. Service prices alone or utilization rates alone are misleading as measures of health care expenditures because one can be high when the other is low. Hence, it is average expenditure per capita, which captures both service prices and the quantity and mix of services, that is most useful in comparing and assessing provider efficiency.

Many experts have attributed variations in per capita utilization and expenditure rates solely to differences in population health status and quality of care, rather than to differences in provider efficiency. Hadley

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The authors are grateful to The John A. Hartford Foundation and The Pew Memorial Trust for their support of this study.

has shown convincingly that health status and quality of care (measured as a reduction in mortality rates) are important in explaining variations in per capita expenditures.[1] However, a number of other researchers have suggested that differences in provider practice style and efficiency may be at least as important as, or perhaps even more important than, health status or quality of care in explaining such variations.[2]

Only recently have studies become available which compare utilization and expenditure rates while simultaneously controlling for health status and quality of care in actual practice settings. Britt found variations in length-of-stay for both intensive and routine care of heart attack patients after controlling for disease severity and patient outcome.[3] McClure, Nobrega, and Shaller have found a 40 percent difference in hospital admission rates for cancer patients between Olmsted County and the nation after controlling for incidence.[4] Brewster has shown twofold differences in average cost per case between different physicians at the same hospital after controlling for patient severity at admission as well as patient outcome.[5]

These studies suggest that provider practice style and efficiency may be at least as important in explaining differences in per capita expenditure and utilization rates as are health status and quality of care. The Medicare data presented below also seem consistent with this notion.

Variations In Medicare Reimbursement

The Medicare program maintains one of the few data systems in the country which allows calculation of population-based expenditures per capita for the same age group receiving the same benefits nationwide. Each year the Health Care Financing Administration (HCFA) compiles data on beneficiary enrollment and reimbursement by place of residence (rather than by place of service) under the Medicare hospital insurance (HI) and supplementary medical insurance (SMI) programs. Unfortunately, these data cannot be used directly for comparing expenditure rates per beneficiary because they are not adjusted for area health status and medical input costs, and because they do not include Medicare reimbursements to health maintenance organizations (HMOs). However, calculation of adjusted population-based expenditures per Medicare beneficiary (that may be fairly compared) is possible by combining Medicare statistical system printouts for both fee-for-service and HMO reimbursements.[6]

Exhibit 1 presents our calculations of Medicare expenditures per elder by selected metropolitan area (SMSA) after adjustment for area age, sex, and wage factors. These adjustments help minimize variations in expenditures due to health status and area input costs, and thus allow a fairer comparison of expenditure rates across areas. Age and sex are used as a

Exhibit 1
Medicare Expenditures Per Elder By Place Of Residence, Selected SMSAs, 1981

	Age/Sex adjusted			Age/Sex/Wage adjusted	
SMSA	**Reimb/ Elder**	**(% of NA)**	**Wage Index**[a]	**Reimb/ Elder**	**(% of NA)**
Miami	$2304	166%	0.999	$2306	166%
Los Angeles	2270	163	1.156	1964	141
Boston	1782	128	1.022	1744	125
Baltimore	1663	120	0.984	1690	122
Chicago	1868	134	1.149	1625	117
Detroit	2013	145	1.252	1608	116
San Francisco	1801	130	1.174	1534	110
Des Moines	1499	108	0.996	1505	108
Portland	1592	115	1.060	1502	108
New York	1804	130	1.208	1493	107
Tampa-St. Petersburg	1294	93	0.871	1486	107
Honolulu	1415	102	0.957	1479	106
Phoenix	1489	107	1.010	1474	106
Flint	1900	137	1.308	1453	105
Pittsburgh	1588	114	1.109	1432	103
Cleveland	1595	115	1.119	1425	103
Minneapolis-St. Paul	1481	107	1.057	1401	101
New Orleans	1432	103	1.027	1394	100
National Average (NA)	1390	100	1.000	1390	100
Albuquerque	1309	94	0.944	1387	100
St. Louis	1452	104	1.049	1384	100
Newark	1532	110	1.148	1335	96
Denver-Boulder	1401	101	1.118	1253	90
Lansing-East Lansing	1342	97	1.079	1244	89
Rochester, Minn.	1225	88	1.017	1205	87
Houston	1507	108	1.256	1200	86
Dallas-Ft. Worth	1205	87	1.080	1116	80
Seattle-Everett	1288	93	1.196	1077	77
Davenport-Rock Island-Moline	1200	86	1.120	1071	77
Rochester, N.Y.	1192	86	1.117	1067	77
Salt Lake City	1055	76	0.988	1067	77

[a] Based on ratio of area wage and salary earnings per job to U.S. average. Data source is the Bureau of Economic Analysis, *Regional Economic Profile, 1976-81.*

Note: Medical expenditures refer to hospital insurance (HI) and supplementary medical insurance (SMI) reimbursements per beneficiary age 65 and over for covered services only. Data are from the Health Care Financing Administration, Bureau of Data Management and Strategy.

reasonable proxy for health status; adjusting all areas to a single standard age-sex mix changes the unadjusted data by less than 4 percent and usually less than 1 percent. The area all-wage index is used as a simple proxy for area input costs because labor accounts for a majority of provider input costs. [Note that the (exogenous) all-wage index is chosen rather than the (endogenous) medical-wage index, since medical wages are controlled by providers.] The all-wage adjustment is crude and produces significant changes in the data; hence Exhibit 1 shows expenditures per elder with and without the wage adjustment. The areas selected in Exhibit 1 were chosen on the basis of geographical distribution and other factors of interest.

Exhibit 1 shows indisputably that large differences exist in adjusted Medicare reimbursement per elder among metropolitan areas. Due to limitations in the Medicare data system, the variations observed in Exhibit 1 are accurate to within only plus or minus 5 percent, but the differences in expenditure rates are far larger than can be accounted for by this apparent statistical noise. The adjusted expenditure per elder in 1981 ranged among the selected areas from a high in Miami of more than $2,300 (or 66 percent above the national average) to a low of less than $1,100 (or 23 percent below the national average) in Seattle, Salt Lake City, and Rochester, New York. This represents a twofold variation from the highest to the lowest areas. Even metropolitan areas within closer geographic proximity exhibit wide variations in Medicare expenditures per elder. For example, Tampa-St. Petersburg is less than 250 miles from Miami yet expenditures per elder are only 7 percent above the national average. Similar though less extreme variations can be observed between Portland and Seattle (8 percent above versus 23 percent below the national average), Los Angeles and San Francisco (41 percent versus 10 percent above the national average), and Minneapolis-St. Paul and Rochester, Minnesota (1 percent above versus 13 percent below the national average).

It is possible but doubtful that expenditure differences as great as those in Exhibit 1 can be explained solely by differences in the health status of the elderly population in these metropolitan areas or in the quality of their medical care. For example, it is highly unlikely that the elderly in Miami are so much more sick or that medical care is so much better as to justify an expenditure rate 40 percentage points greater than that observed in Boston. In comparing Miami to Seattle (two SMSAs of comparable size), a simple sensitivity analysis shows that, even assuming the per capita cost of chronically high-risk elders to be ten times higher than the national average, there would need to be four times as many high-risk elders in Miami as in Seattle to account for the twofold variation observed in expenditures. Such wide swings in the health status of the elderly among these areas seem unlikely. It is equally unlikely that such variations are due to gross differences in quality of care between the two areas. A more plausible explanation, consistent with the existing research evidence, is that these variations are due at least as much to differences in provider efficiency as they are to differences in health status or quality of care. The importance of provider efficiency in explaining expenditure variations is further suggested by the trend and composition data presented in Exhibit 2.

Exhibit 2 shows the trend in adjusted Medicare expenditures per elder over time, as well as the composition of these expenditures by hospital

Exhibit 2
Trend In Medicare Reimbursement Per Elder By Place Of Residence, Selected SMSAs (age, sex, and wage adjusted) 1974-82

Location		1974 (% of NA)	1976 (% of NA)	1978 (% of NA)	1980 (% of NA)	1982 (% of NA)
National average (NA)	HI	$344(100%)	$509(100%)	$625(100%)	$827(100%)	$1146(100%)
	SMI	131(100%)	189(100%)	253(100%)	367(100%)	499(100%)
	Total	475(100%)	698(100%)	878(100%)	1194(100%)	1645(100%)
Miami	HI	498(145%)	799(157%)	978(156%)	1226(148%)	1752(153%)
	SMI	281(215%)	417(221%)	569(225%)	750(204%)	972(195%)
	Total	779(164%)	1216(174%)	1547(176%)	1976(165%)	2724(166%)
Boston	HI	500(145%)	715(140%)	861(138%)	1037(125%)	1419(124%)
	SMI	145(111%)	212(112%)	277(109%)	430(117%)	592(119%)
	Total	645(136%)	927(133%)	1138(130%)	1467(123%)	2011(122%)
Minneapolis-St. Paul	HI	440(128%)	592(116%)	700(112%)	866(105%)	1195(104%)
	SMI	135(103%)	183(97%)	235(93%)	324(88%)	405(81%)
	Total	575(121%)	775(111%)	935(106%)	1190(100%)	1600(97%)
Rochester, Minn.	HI	237(69%)	316(62%)	381(61%)	482(58%)	618(54%)
	SMI	267(204%)	344(182%)	408(161%)	535(146%)	679(136%)
	Total	504(106%)	660(95%)	789(90%)	1017(85%)	1297(79%)
Seattle-Everett	HI	246(72%)	370(73%)	492(79%)	635(77%)	827(72%)
	SMI	114(87%)	160(85%)	239(94%)	311(85%)	401(80%)
	Total	360(76%)	539(76%)	731(83%)	946(79%)	1228(75%)
Rochester, N.Y.	HI	296(86%)	472(93%)	595(95%)	712(86%)	815(71%)
	SMI	107(82%)	145(77%)	182(72%)	286(78%)	379(76%)
	Total	403(85%)	617(88%)	777(88%)	998(84%)	1194(73%)

Note: Medicare reimbursement per elder refers to reimbursements per beneficiary age 65 and over for covered services only. Data are from the Health Care Financing Administration, Bureau of Data Management and Strategy. Wage and salary earnings per job were available for 1976-81 only. The wage index calculated for 1976 is used here for 1974; the 1981 index is used for 1982. Data source is The Bureau of Economic Analysis, *Regional Economic Profile, 1976-81*.

(HI) and physician (SMI) reimbursements. (Age- and sex-adjusted data without the wage adjustment are shown in Exhibit 3.) Consider first the trend in these adjusted expenditures by area relative to the national average for the period 1974 to 1982. Both in Miami (the highest cost area) and in Seattle (one of the lowest cost areas) expenditures increased at roughly the national average rate. On the other hand, expenditures in Boston (a higher cost area), Minneapolis-St. Paul (a more average cost area), and Rochester, New York and Rochester, Minnesota (both lower cost areas), have all escalated measurably less than the national average. In Boston, a major medical center with moderate hospital regulatory controls, Medicare expenditures per elder declined from 36 percent to 22 percent above the national average between 1974 and 1982. In Minneapolis-St. Paul, a medical system active in both planning and competitive market innovations, a still larger decline took place from 21 percent above the national average in 1974 to 3 percent below in 1982. In

Exhibit 3

Trend In Medicare Reimbursement Per Elder By Place Of Residence, Selected SMSAs (age and sex adjusted) 1974-82

Location		1974 (% of NA)	1976 (% of NA)	1978 (% of NA)	1980 (% of NA)	1982 (% of NA)
National average (NA)	HI	$344(100%)	$509(100%)	$625(100%)	$827(100%)	$1146(100%)
	SMI	131(100%)	189(100%)	253(100%)	367(100%)	499(100%)
	Total	475(100%)	698(100%)	878(100%)	1194(100%)	1645(100%)
Miami	HI	501(146%)	803(158%)	957(153%)	1214(147%)	1750(153%)
	SMI	282(215%)	419(222%)	557(220%)	742(202%)	971(195%)
	Total	783(165%)	1222(175%)	1514(172%)	1956(164%)	2721(165%)
Boston	HI	523(152%)	747(147%)	882(141%)	1055(128%)	1450(127%)
	SMI	151(115%)	222(117%)	283(112%)	437(119%)	605(121%)
	Total	674(142%)	969(139%)	1165(133%)	1492(125%)	2055(125%)
Minneapolis-St. Paul	HI	465(135%)	625(123%)	736(118%)	915(111%)	1263(110%)
	SMI	142(108%)	193(102%)	247(98%)	343(93%)	428(86%)
	Total	607(128%)	818(117%)	983(112%)	1258(105%)	1691(103%)
Seattle	HI	282(82%)	423(83%)	573(92%)	756(91%)	989(86%)
	SMI	130(99%)	183(97%)	278(110%)	371(101%)	479(96%)
	Total	412(87%)	606(87%)	851(97%)	1127(94%)	1468(89%)
Rochester, Minn.	HI	238(69%)	317(62%)	389(62%)	495(60%)	629(55%)
	SMI	268(205%)	345(183%)	416(164%)	549(150%)	690(138%)
	Total	506(107%)	662(95%)	805(92%)	1044(87%)	1319(80%)
Rochester, N.Y.	HI	333(97%)	531(104%)	656(105%)	795(96%)	911(79%)
	SMI	120(92%)	163(86%)	201(79%)	319(87%)	423(85%)
	Total	453(95%)	694(99%)	857(98%)	1114(93%)	1334(81%)

Source: Health Care Financing Administration, Bureau of Data Management and Strategy

Note: Medicare reimbursement per elder refers to reimbursements per beneficiary age 65 and over for covered services only

Rochester, New York, with a unique system of voluntary hospital budget ceilings, expenditures fell from 15 percent to 27 percent below the national average over the eight-year period. Expenditures per elder in Rochester, Minnesota, a unique fee-for-service system comprised by the Mayo and Olmsted Clinics, fell from 6 percent above to 21 percent below the national average.

It is possible but doubtful that large changes in health status or medical care quality have occurred in Boston, the Twin Cities, and the two Rochesters that have not occurred in Miami and Seattle. To the contrary, it seems far more plausible to ascribe these reductions in expenditure growth to changes in provider efficiency. This notion is further supported by inspection of the composition data, discussed next.

Exhibit 2 shows that each area not only appears to vary greatly in adjusted expenditures per elder, but these expenditures appear to be distributed very differently between hospital (HI) and physician (SMI) reimbursement between areas and within certain areas over time. For the nation as a whole, the composition of Medicare expenditures per elder splits 70 percent to hospitals and 30 percent to physicians (or 70 percent/ 30 percent for short); this composition has changed little over time.

In Miami, however, despite the fact that hospital expenditures are 50 percent above the national average, physician expenditures are even higher (100 percent above the national average), so that the composition of expenditures (64 percent/36 percent) in this high-cost area is more physician-intensive than the national average. Expenditure composition in Miami has not changed over time. In contrast, Boston (also a high-cost area) originally had a much more hospital-intensive style than either Miami or the national average (78 percent/22 percent in 1974). The observed expenditure restraint in Boston over the eight-year period was apparently achieved by substituting ambulatory care for inpatient care, so that the present expenditure composition (71 percent/29 percent in 1982) is now close to the national average. The composition of expenditures in Boston has changed measurably over time.

Like Boston, Minneapolis-St. Paul was originally hospital-intensive (77 percent/23 percent in 1974), but unlike Boston it remains almost as hospital-intensive today (75 percent/25 percent in 1982) despite an even greater restraint in total expenditures per elder. Thus Minneapolis-St. Paul apparently achieved its overall expenditure restraint by reducing inflation equally among hospital and physician expenditures.

Seattle has maintained a relatively constant composition (67 percent/ 33 percent) over the eight-year period while remaining one of the lowest cost areas in the nation. Rochester, New York has also maintained a rather constant composition (71 percent/29 percent in 1981); even though it was a low-cost area to begin with (and has become one of the lowest), Rochester, like Minneapolis-St. Paul, has apparently restrained expenditures by controlling hospital and physician expenditures equally. (The sudden drop in hospital expenditures in 1982 may be due to statistical noise or may represent the beginning of a shift toward a less hospital-intensive style.)

Perhaps the most interesting area is Rochester, Minnesota, which has simultaneously one of the most physician-intensive yet least hospital-intensive practice styles of all areas examined. Despite significant restraint of total expenditures, composition has remained constant over time at roughly 48 percent/52 percent.[7] Apparently, Rochester, Minnesota has restrained overall expenditures by controlling hospital expenditures as much as physician expenditures, even though this area had one of the least hospital-intensive practice styles to begin with (that is, hospital expenditures declined from 31 percent to 46 percent below the national average from 1974 to 1982). It is interesting to note that such expenditure restraint is possible in an area where over half of the physicians are in specialty residency training.

Again, these differences in composition of hospital and physician expenditures seem too large to be a reflection of either health status or quality of care in the selected areas, but rather seem to be more a reflection of differences in the organization and practice style of area providers. Further, the fact that those areas achieving expenditure restraint have done so in different ways (usually by keeping expenditure composition constant) supports the notion that we are observing differences in provider efficiency rather than differences in health status or quality. Moreover, if these observations are correct, we cannot speak of a single elaborate or conservative style of care; the differences between high-cost areas such as Miami and Boston and low-cost areas such as Seattle and the two Rochesters suggest that there are various elaborate and conservative styles of care.

Note that while the discussion above has focused on differences in provider efficiency among areas, the research cited earlier suggests that variation in practice style and efficiency among individual providers within each area is at least as great as the variation across areas.

Conclusion

The data presented in this article demonstrate that large variations exist in Medicare reimbursement per elder among metropolitan areas. After adjusting for differences in age, sex, and area wage costs, significant variations remain which appear unlikely to be explained solely or mainly by differences in quality of medical care or differences in population health status. These data appear consistent with the increasing evidence that differences in provider efficiency may account for much and perhaps the majority of the observed variations in per capita expenditure rates. Clearly, further research is needed to draw any rigorous conclusions.

To the extent that wide variations in provider efficiency are substantiated by further research, it should be possible to constrain costs by improving efficiency rather than by reducing access and quality of medical care. This can be attempted either by controls or incentives that encourage all providers to become at least as efficient as the most efficient providers practicing today.

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STATEMENT OF THE AMERICAN SOCIETY OF INTERNAL MEDICINE

The American Society of Internal Medicine (ASIM) represents physicians throughout the country who are recognized as specialists in internal medicine. For the last several years, ASIM has committed considerable time and resources to studying the problems of the current system of reimbursing for physicians' services and developing possible solutions. Based on this experience, we welcome the opportunity to share our thoughts with you.

ASIM agrees with many of the suggestions made by the witnesses, such as the use of physician directed peer review to achieve appropriate utilization and retain high quality care. However, the Society believes that the methods presented are not the only ways to reduce expenditures on federal health programs. An alternative strategy--focusing on creating financial incentives for the appropriate use of medical technology--deserves consideration.

Overview

Medicare, as well as most third party payors, use a variation of the "usual, customary or reasonable" charge system to determine allowances for physician services. Under the UCR system, physician services are reimbursed according to a formula that takes into account the individual physicians' actual charge for the particular service, the customary charge for that service (what the physician ordinarily charges for the same service), and the applicable prevailing charge (what most physicians in the community charge). However, because of the built-in lag between the time actual charges are submitted, and when reimbursement allowances are determined, allowances rarely reflect current charges in the community. In addition, many third party payors have placed limits or caps on increases in prevailing charges, which further widens the gap between actual charges and the "UCR" allowance for each service.

In theory, the UCR system has several important advantages. Because it is based on actual charges, it reflects what physicians and patients agree in the marketplace should be the worth of a particular service. It is also more competitive than other systems, since (unlike a standardized fee schedule) it allows price competition. Further, it ensures that reimbursement is reasonable, by limiting allowances to what most physicians are charging in the community.

The main problem with the UCR system, however, is that it has had the effect of locking in historical inequities in compensation for various types of physician services--inequities due at least in part to historical variations in insurance coverage for different types of services. Historically, health insurance was created to protect patients from the high cost of surgical procedures and hospitalization. Expansion of health insurance benefits led to increased coverage for other procedural services such as laboratory tests and x-rays, but did not include coverage for equally important cognitive services, such as office visits and consultations. As a result, physicians began to place greater emphasis on charging for procedures, so that patients could benefit from their insurance. More recently, insurance plans have begun to provide coverage for office visits, consultations, and other cognitive services that do not by themselves involve the performance of specific diagnostic and surgical procedures. Unfortunately, the historical bias for procedures has resulted in charging patterns and reimbursement allowances that continue to perpetuate the disparity in reimbursement between physicians' cognitive and procedural services.

The result of this bias is the creation of powerful monetary incentives to encourage the use of technology-based procedures. A physician who performs an expensive array of technologically intensive services will be compensated at high levels, while a physician who conducts a detailed physical and history examination will be paid far less. This has the effect of rewarding physicians for automatically performing a battery of tests and procedures, while penalizing them for carefully and selectively considering whether tests and procedures are needed. Similarly, surgeons are penalized for their time and effort spent in consultation with patients, even though careful and time-consuming surgical consultations can potentially yield a decision not to operate on the patient and to recommend a less costly (and possibly less traumatic) form of therapy.

A revised reimbursement system that paid appropriately for office visits, consultations, and other cognitive services might encourage more physicians to spend more time with patients--thus minimizing or reducing the need for and use of tests and procedures that rely on technology. This could also reduce the costs associated with reliance on intensive use of technology and, we believe, result in more satisfying care for patients. This concept has received the support of several other groups, including the American Association of Retired Persons (in recent testimony before the Senate Special Committee on Aging), the National Council on Health Planning, the American Academy of Family Physicians, the American Academy of Pediatrics, several state medical societies, and most recently, the House of Delegates of the American Medical Association, representing physicians nationwide in all specialties.

Basing Allowances on Resource Costs

As an alternative to the current "UCR" system, our Society specifically favors a system that would base allowances on the "resource costs" involved in providing each service.

Resource costs are those costs (such as time, complexity, investment in original training, and overhead expenses) incurred by physicians in providing a particular service. By comparing current allowances with the estimated resource cost, adjustments can be made in those allowances to improve reimbursement for those services tnat are undervalued on the basis of resource costs, while reducing allowances for those services that are overvalued on this basis.

As early as 1979, there was evidence to support the feasibility of developing of a relative value scale based on resource costs. The Health Care Financing Administration (HCFA) funded a study by two Harvard University professors, William B. Stason and William C. Hsiao, that concluded that a relative value scale based on resource costs could reduce, if not eliminate, the disparity in compensation for cognitive and procedural services. Recently, the Commonwealth of Massachusetts' Rate Setting Commission has implemented a relative value scale based on resource costs for the 25 procedures studied in the Harvard study, as the basis for establishing allowances under its Medicaid and Workmen's Compensation programs. The intent of incorporating this relative value scale into the reimbursement system is to narrow the gap in reimbursement between primary care and surgical and technological procedures. In testimony before the U. S. Senate Special Committee on Aging, Susan Babin, then-Director of the Massachusetts Rate Setting Commission's Bureau of Community Based Services, stated that, "The ramifications of such pricing systems (as currently exist) on health care costs are far-reaching. In the short run, they encourage the substitution of more costly and resource-intensive forms of diagnosis and treatment for less costly diagnosis and treatment. In the long run, the more favorable remuneration for technological procedures as opposed to primary care and office visits provides incentives for new physicians to specialize, thus resulting in a shortage of primary care providers."

It should be recognized that the new fee schedule adopted by the Commission has generated considerable controversy among physicians in Massachusetts. Much of this controversy, however, may be due to the fact that the Rate Setting Commission developed its relative value scale by applying the methodology in the 1979 Harvard study to a wide range of services and procedures not included in that study, without any direct involvement of the physicians in Massachusetts in determining appropriate relative values for those additional services based on resource costs. Therefore, ASIM strongly believes that although the Rate Setting Commission program is a step in the right direction, it is preferable that physicians in all specialties be involved in developing any future relative value scales based on resource costs that may be adopted by a third party such as Medicare for payment purposes. This could be accomplished by asking a broadly representative group of physicians to estimate (using consensus development techniques) the amount of time, complexity, overhead costs, training costs, and so forth involved in providing each physician service. Following this initial evaluation, relative values would be assigned by the physician group based on the resource costs estimates. Finally, the relative value scale determined through this analysis could be utilized by third party payors in determining future allowances. The "conversion" factors (that is, the dollar amount applied to each relative value) would be determined by the third party payor itself.

The Health Care Financing Administration (HCFA) is considering such a project for the Medicare program. The American Medical Association (AMA) has offered to develop a relative value system based on resource costs under contract to HCFA, using a process that is similar in concept to the one described above. Several other groups, including the Institute of Medicine of the National Academy of Sciences, are planning similar studies.

The Society recognizes that there may be practical difficulties involved in developing a resource cost based system for Medicare. To minimize some of these problems, a resource cost based system could be phased in by first applying it to new procedures only. Under the current system, the charges for new procedures generally follow the relatively high fees set by those physicians who have initially pioneered the procedure. However, as the procedure becomes more widely practiced, the costs and risks of providing the service generally decrease, but prevailing charges do not. As an initial step for developing a resource costs system for all physician services, a multi-specialty committee could be appointed and charged with developing resource costs estimates for new procedures at the time that each procedure is first considered for coverage, as a basis for determining initial allowances. The same committee would then be charged with reevaluating the relative values on a regular (perhaps annual) basis and making appropriate revisions as the time, complexity, and/or cost of the service decrease. As a result, in many cases allowances for technology would gradually decrease over time as the actual costs of performing these services diminished.

Another approach for phasing in a resource cost system would be to initially develop a relative value scale only for those services that (1) are most frequently reimbursed by Medicare; and/or (2) lead to the greatest expenditure of programmatic funds.

Conclusion

In conclusion, ASIM strongly encourages Congress and the Health Care Financing Administration to consider a relative value system based on resource costs as an alternative to the current "UCR" system. Such a system would result in more cost-effective use of technology by reducing some of the current biases in favor of technological procedures built into the UCR methodology, without the danger of discouraging medically necessary services. In this respect, it is preferable to other proposals--such as paying physicians on the basis of capitation or a global fee per diagnosis--that tend to reward physicians not only for reducing "unnecessary" utilization of certain services, but also for not providing medically appropriate and necessary services. It also could permit appropriate differentiation between services provided by different types of specialists, by identifying those specific instances where the amount of time, complexity, training or costs of providing a service truly differ according to the specialty of the physician providing the service.

ASIM would welcome the opportunity to work with Congress and the Health Care Financing Administration in developing this concept further, and would be pleased to answer any questions on these recommendations.

CONCLUSION OF HEARING

Senator PROXMIRE. This will conclude the hearing and the subcommittee is recessed.

[Whereupon, at 1 p.m., Monday, November 19, the hearing was concluded, and the subcommittee was recessed, to reconvene at the call of the Chair.]

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